

Inside Dope

By GEORGE
F. TAUBENECK



Learn to live and laugh —
thus delay your epitaph

Stories of the Week
Gags of the Week
Businessmen Are Human
Relax and Enjoy It
Salesman Sam
Your Children and
Everybody's
Truth In Laughter
Last Gasps

Stories of the Week

"Difference between a psychotic and a neurotic," a medical school instructor explained, "is this:

"A psychotic believes two and two add up to five. A neurotic knows two and two make four, but it worries the hell out of him."

"What a mansion! Seven bathrooms!"

"Yes," smugged the owner, "I owe my clean living to success."

Gags of the Week

Who says money talks? It doesn't even say goodbye these days.

Paying alimony is like pumping gasoline into another man's car.—MIKE CONNOLLY.

Perhaps the reason there is no fool like an old fool is because that, too, takes practice.—VESTA M. KELLY.

Folks who live within their income are just trying to mess up prosperity.—P-K Sideliner.

I always dislike using a manuscript in making a speech. It's like courting a girl through a picket fence. Everything that is said can be heard, but there isn't much contact.—EUGENE SMITH, at World Methodist Conference.

Businessmen Are Human

There is a widespread theory that businessmen are interested only in business. They neglect their wives and children, don't know the meaning of love or compassion, never have any fun, are uniformly stuffy bores, gyp their employees and the public, and have traded their souls to Satan for money.

This theory is as wrong, of course, as the widespread fallacy that businessmen won't read anything unless it delves into their own business problems. (We strongly suspect that said fallacy is promoted by publishers of dull, uninteresting, laid-aside trade papers.)

Many of the most successful businessmen we know read Shakespeare, the Bible, historian Toynbee—and the comic strips! They're human—just like college professors, labor leaders, (Concluded on Page 12, Col. 1)

Servel Halts Refrigerator Production

Gas Utilities Confer On Gas Unit's Future

NEW YORK CITY—With the knowledge that Servel, Inc. has made its last household gas refrigerator, executives from 12 utilities representing all areas of the country gathered informally in the offices of the American Gas Association here last week to discuss what might be done to continue a gas refrigerator on the market.

C. H. Zachry, president of AGA, said the group also attempted to ascertain if any companies were trying to buy the Servel gas refrigerator. He pointed out that 25 to 30 gas utility companies are vitally interested in the continuance of a gas refrigerator on the market.

Zachry emphasized that this (Concluded on Page 4, Col. 1)

Average Dealer Has 4 Salesmen—NARDA

CHICAGO—How do most appliance dealers pay their salesmen? What is the average weekly pay of these salesmen?

The answers to these and other questions on salesmen compensation practices have been revealed through a recent survey conducted by the National Appliance & Radio-TV Dealers Association (NARDA), President Ken Stucky announced.

According to Stucky, a survey of NARDA members showed the average dealer employs 4.12 salesmen; the majority employ one to five. Some dealers employ as many as 30 salesmen, (Concluded on Page 25, Col. 1)

Family Hit by CO

Auto Cooler Held 'Wrongly Accused'

DEARBORN, Mich.—An auto air conditioner was wrongly accused of circulating carbon monoxide into a car causing seven members of an Oroville, Calif. family to collapse, reports the public relations department of the Ford Motor Co.

A story on the incident appeared on page 9 of the July 22 issue of the NEWS.

Ford representatives, investigating the incident, learned that a faulty tailpipe was the culprit. Mrs. C. A. Lewis, whose family was involved in the accident, told them that the exhaust fumes entered the car through the floor boards and that a strong tail wind aggravated the situation.

The newspaper report that blamed the air conditioner was erroneous, she said.

Commercial Section Highlights:

MARKET OPERATOR tells what he expects from refrigeration and refrigeration men. Exceedingly interesting is his advice on how he would like to be billed for the work you do for him. (page 20).

NEW "L" THERMOBANK operation is explained by Otto J. Nussbaum in the second instalment of his two-part article which appears on page 22. A BATTERY OF VENDORS being used by Kroger is pictured and described on page 19. Many other news items are included in the section which runs from page 18 to 22.

Airtemp Revises Sales Structure

DAYTON — Major organizational changes within the sales division of Chrysler Airtemp were announced here by J. F. Knoff, vice president in charge of sales.

"In the interest of obtaining more precise control of all sales activities at every marketing level, to streamline and thereby strengthen the company's competitive position, a number of organization changes are being made at both the home office and field level," Knoff stated.

Knoff then outlined the following moves which will become effective Sept. 1.

Under the direction of the sales vice president, Airtemp's home office sales management group will consist of:

Director of national service, T. B. Hollencamp; director of (Concluded on Page 25, Col. 3)

Round Table Hears

FHA Relaxes Attitude Toward Residential Air Conditioning

So. Calif. Sheet Metal Strike Ends

LOS ANGELES—The seven-week-long sheet metal strike affecting four southern California counties is over. Union members went back to work last Monday after ratifying negotiations at a union meeting Sunday, Aug. 18.

The settlement represents approximately a 50-50 split between what the contractors offered and the union demanded. The new contract is scheduled to run four years.

Employer members of the sheet metal contractors association and heating, ventilating, and air conditioning contractors ratified negotiations at a meeting Wednesday morning.

The new agreement is the agreement for the industry, including employers not members of the associations who sign with the union.

The contract calls for regular annual wage increases, a change in vacation plan payments from a per hour basis to a percentage of gross wages, an increase in welfare payments, and a pension plan to take effect next Jan. 1 with benefits to start a year later. (Concluded on Page 4, Col. 5)

Will Include Room Units In Valuation

NEW YORK CITY—The Federal Housing Administration has added room air conditioners to the list of easily removable real estate items that can be included in its home valuations, Charles E. Sigety, deputy FHA commissioner told a round table on residential air conditioning held here recently.

The round table was sponsored jointly by the Air-Conditioning & Refrigeration Institute and *House and Home* magazine. It was called by *House and Home* to explore the problem of making air conditioning the top selling feature in next year's new homes.

Sigety also told the round table that FHA is reversing its attitude on air conditioning and is instructing its field offices to stop penalizing air conditioning in their appraisals and income requirements.

However, Alfred W. Jarchow, director of FHA's appraisal and mortgage risk division, contacted by the NEWS last week, did not recall that any instructions of this nature had yet been sent to field offices. Sigety was on leave.

The FHA field office in Detroit reported that it had received instructions relative to room air conditioners but nothing on central air conditioning. (Concluded on Back Page, Col. 1)

I-B-R Conclave Set for Sept. 10

URBANA, Ill.—The second engineering conference on steam and water heating and summer cooling will be held at the University of Illinois here on Sept. 10 and 11, the university announced recently.

Dedication of the I-B-R laboratory will be a special feature of the conference. It will take place after the evening banquet on Tuesday, Sept. 10. There will be a tour of the I-B-R laboratory, research home, and (Concluded on Page 25, Col. 3)

BEHIND PAGE ONE . . .

Transport Refrigeration News.....	5
Cool College President's Home	
Construction Know-How Allows Contractor To Air Condition Old Home with Little Remodeling and Redecorating.....	6
Design and the Service Problem	
Utility Official Asks Manufacturers To Design Equipment for Easy Repair, Replacement	9
Room Units and Health	
Physician's Column Lauds Air Conditioning Benefits	11
Supermarket Air Conditioning	
Recessed Units Blend In with Other Equipment; Condensing Units Mounted on Roof of Building	13
Servicing Auto Air Conditioners.....	23
Refrigeration Problems	
Testing Compressor Discharge Valves.....	24

'Cool Those Fevered Brows'

Texas High School To Be Conditioned; School Chief Sees Portent of Trend

SAN ANGELO, Texas—What is believed to be one of the country's first completely air conditioned high schools is being erected here.

Scheduled for completion in 1958, San Angelo high school will accommodate 1,800 to 2,000 students in a campus type plant located on a 30-acre site. It will consist of 12 buildings and cost approximately \$2,867,000. Indicating that air condition-

ing of this high school may indicate a trend in school building programs, San Angelo Superintendent of Schools G. B. Wadzeck declared:

"While air conditioning may seem unnecessary to some, it is in fact a step toward recognizing that great changes are forthcoming in education.

"Every school building should be available for 24-hour service (Concluded on Page 10, Col. 1)

Heating Section . . .

MR. HEATING CONTRACTOR, Are you interested in solving your profit problem? Howard Spindler, vice president of public relations, American Standard & Sanitary Corp. offers a number of suggestions, eight to be exact, to help improve your fiscal picture. He describes the Contractor as the Hub of a Wheel around which are arranged eight spokes (Facilities, Technical Know-How, Employees, Market Awareness, Selling, Credit, Public Relations, and Enthusiasm).

H. C. Gurney continues his series on "Winter Air Conditioning Fundamentals." He is currently discussing: Size and Location of Unit Heaters.

. . . Next Week

First Case of Its Kind**Challenge Govt.'s Right To Penalize Retailers For Selling Goods Falsely Advertised by Mfrs.**

PHILADELPHIA — The government's right to penalize retail establishments for selling goods on which the manufacturer has made false claims will be tested at a hearing set for Sept. 16 before Federal Judge C. William Kraft.

The issue was raised in a suit filed by two retail food merchants whose mailing privileges were cancelled by the Post Office because one of the products they had sold had been misrepresented by its manufacturer.

In a temporary restraining order, Judge Kraft ordered re-opening of the firms' mailing privileges. The owners agreed they would not sell the product in question in the meantime and would keep strict account of

money received on orders placed prior to cancellation of mailing rights.

Milton A. Bass, counsel for plaintiffs, Milton Low, who operates Low's Food Store here, and Peter Small, proprietor of House of Health, Emmaus, said the case was the first of its kind to be filed anywhere in the country and its final outcome would affect many retail houses.

F. L. Talcott Dies at 36

COLUMBUS, Ohio—Frederick L. Talcott died recently at his home here. Talcott, who was 36, was manager of the refrigeration freezer design section of the Columbus plant of Westinghouse Electric Corp.

Environmental Unit Group Elects Officers

PRINCETON, N. J.—The Environmental Equipment Institute, a trade association founded in 1953 by a group of manufacturers of environmental test equipment, has elected the following officers for the year 1957-58:

President: E. S. Brown, president, Standard Cabinet Co.; executive vice president: R. J. Jacobsen, president, Cincinnati Sub-Zero Products; executive committee: Jack Shamroth, president, American Research Corp.; Alexander I. Newman, president Hudson Bay Div. of Labline, Inc.; and Robert Brown, vice president, Tenney Engineering, Inc.

General manager of the EEI is Dr. George D. Wilkinson, president of the George D. Wilkinson Co., consultants.

Hupp 'Possibly' May Merge with Firms In '57

CLEVELAND — Hinting that Hupp Corp. has not completed its external growth plans, Don H. Gearhart, president, commented "there is a possibility we will have some mergers before the end of the year. And the situation will be the same next January.

"We have been talking," said Gearhart, "with a number of companies and will continue to negotiate with them."

Stating the company has no plans for additional financing this year, Gearhart added "I don't know" when queried as to possibility of a stock dividend before the end of the year. Hupp paid 5% in stock last December.

Hupp expects slightly lower sales in 1957 than the \$62 million reported last year.

American Gas Names Norman to Ad Post

ALBERT LEA, Minn.—R. J. Lickteig, vice president and sales manager, American Gas Machine Co., Ice Machine Div. of Queen Stove Works, Inc., has announced the appointment of William R. Norman as advertising and sales promotion manager.

He will be in charge of national advertising for "Scotsman" automatic ice machines and will direct distributor advertising plans and programs.

Prior to joining the Albert Lea firm in 1953, Norman was associated with the advertising section of Coolerator Co., at that time a subsidiary of International Telephone & Telegraph. Before and after World War II naval service, he attended the University of Chicago and the University of Minnesota, it was explained.

Webster To Represent NARDA At President's Sept. Conclave On Small Business

CHICAGO—George C. Webster of John G. Webster & Sons, Inc., Washington, D. C., will represent the National Appliance & Radio-TV Dealers Association at the President's Conference on Small Business, Sept. 24-26, in Washington.

Webster, long a member of NARDA, founded the Washington chapter of the organization, and has taught at NARDA's annual Institute of Management at The American university. He is also past president, and a present member of the board of directors of Electric Institute of Washington, and is an independent management consultant.

West Coast Cooling Pioneer, Frank W. Jordan, Dies in Calif.

SAN FRANCISCO—Frank W. Jordan, Pacific coast regional manager of the Air Conditioning Div. of Westinghouse Electric Corp., died Aug. 17. He had been in failing health.

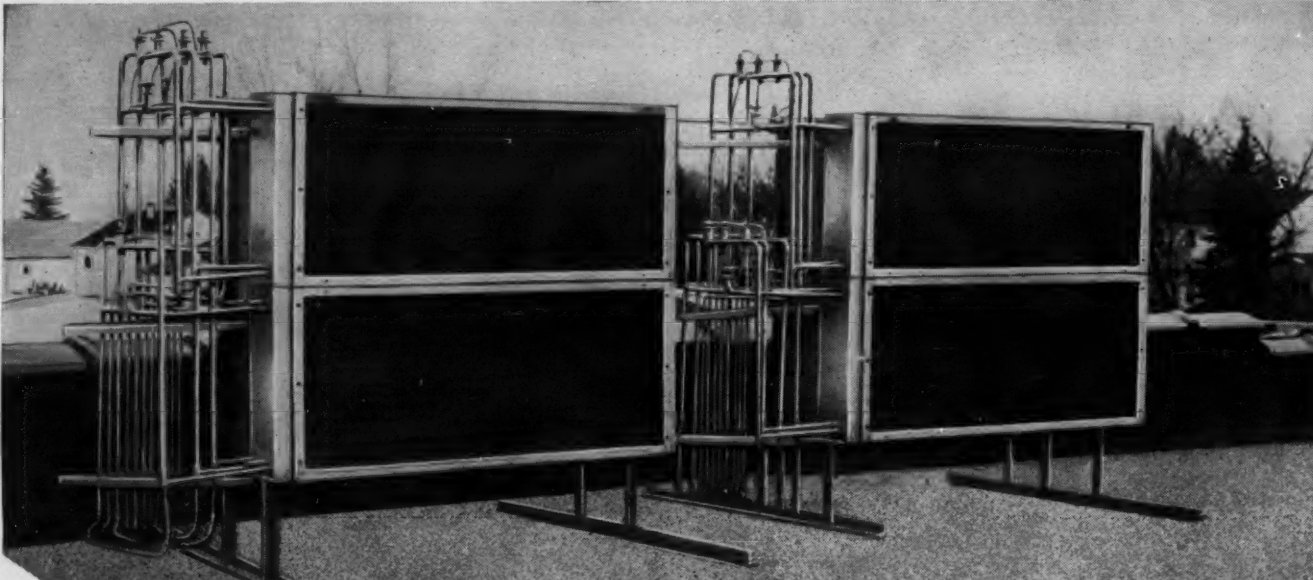
Jordan was a pioneer in air conditioning on the Pacific coast. He had been with Westinghouse 38 years, came to San Francisco in 1933 as supervisor, became manager of the Pacific region.

He was a member of the American Society of Heating & Air-Conditioning Engineers. His wife, Jodie Lee Jordan, and two brothers, Carl P. Jordan of Missoula, Mont. and Theodore C. Jordan of Great Falls, Mont., survive him.

Stoddard Starts Ark. Plant

CHICAGO — Stoddard Mfg. Co. here announced the recent start of construction on a new plant at Clarendon, Ark.

This new 82,550-sq. ft. building will manufacture some types of air filters, wire milk bottle crates, stainless steel tanks, and fabricated products for the beverage, food, and industrial ent management consultant, it was added.



KRAMER

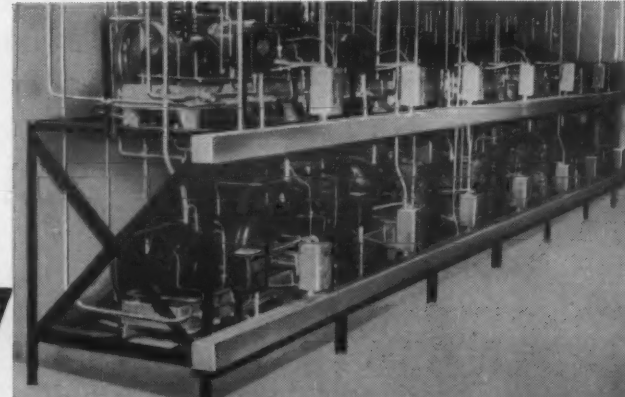
UNICON FOR SUPERMARKETS

Serves 14 Compressors Winter and Summer WITHOUT ANY WATER*

Photographs of UNICON installation at Trimborn's Supermarket, Hales Corner, Wisconsin

Installed by Real Refrigeration Sales and Service, Milwaukee, Wisconsin

Units furnished by Wisconsin Refrigeration Supply Company, Milwaukee, Wisconsin



WRITE FOR BULLETIN U-291

*UNICON is a Remote-Type Air-Cooled Condenser

KRAMER TRENTON CO. • Trenton 5, N.J.

AMCA Announces Membership of 3 Committees

DETROIT—Members of three important committees of the Air Moving & Conditioning Association (AMCA), Detroit, have been named by AMCA President W. H. Rietz of Ilg Electric Ventilating Co., Chicago.

E. E. Trickler, vice president of sales, New York Blower Co., Chicago, has been appointed chairman of the Certified Ratings Committee. This group is developing and will supervise a uniform procedure for rating the performance of fan and air conditioning devices in AMCA qualified laboratories according to the standard test code and laboratory standards of the association, it was stated.

Members of the Certified Ratings Committee are: H. F. Brinen, Young Radiator Co., Racine; W. A. Curtis, Peerless Electric Co., Warren, Ohio; E. W. Petersen, American Blower Div., American-Standard, Detroit; E. J. Stone, Propellair Div., Robbins & Meyers, Springfield, Ohio; and J. W. Wilcock, Sturtevant Div., Westinghouse Electric Corp., Boston.

AMCA's Engineering Committee functions to establish standard methods of testing and rating air moving and/or conditioning devices and is cooperating with other associations and engineering societies on several projects to improve practices and product performance within the industry, it was pointed out.

Named as members of this committee are: H. R. Bohanon, Acme Equipment Co., Muskogee, Okla.; W. A. Curtis, Peerless Electric; C. O. Fury, Clarage Fan Co., Kalamazoo; J. E. Gill, Buffalo Forge Co., Buffalo; J. J. Merrick, John J. Nesbitt, Inc., Philadelphia; and R. E. Parker,

Environmental Engineers Elect Sander President

PRINCETON, N. J.—The Institute of Environmental Engineers, a one-year-old engineering society, has elected the following officers for the year 1957-58.

President: Henry F. Sander, chief test engineer, Vapor Heating Corp.; executive vice president: Roger J. Amorosi, president, Parameters, Inc.; vice president, fiscal affairs, Harold C. Jones, senior environmental test engineer, Westinghouse Air Arm Div.; vice president, membership, Irving P. Polak, section supervisor, MJL Operations, Marquardt Aircraft Co.; vice president, publications: Cyril C. Campbell, senior research engineer, Convair Astronautics; and vice president, local chapters: Arthur Billet, senior staff engineer, Aero Hydraulics Div. of Vickers Inc.

Environmental engineering involves the various techniques for simulating the physical environment, both natural and man-made, and testing equipment, components, and materials in these simulated environments—usually in test chambers especially designed and built for the purpose.

WHAT . . . WHEN . . . WHERE — A Guide to Coming Events of Interest

National Frozen Food Merchandising Convention and Exposition
Sept. 8-11, Sherman hotel, Chicago.

U. S. Environmental Control Conference
Sept. 12-13, Los Angeles.

International Association of Electrical Leagues Convention
Oct. 2-4, Sinton hotel, Cincinnati.

Locker & Freezer Provisioners International Convention
Sept. 15-18, Hotel Leamington, Minneapolis.

American Gas Association Convention
Oct. 7-9, Kiel auditorium, St. Louis.

Milk Industry Foundation Convention
Oct. 21-23, San Francisco.

National Electrical Manufacturers Association Meeting
Nov. 11-15, Traymore hotel, Atlantic City.

American Society of Refrigerating Engineers Meeting
Nov. 14-16, Shoreland hotel, Chicago.

Refrigeration & Air Conditioning Contractors Association Convention
Nov. 16-18, Drake hotel, Chicago.

Air Conditioning & Refrigeration Wholesalers Meeting
Nov. 16-18, Sheraton hotel, Chicago.

National Commercial Refrigerator Sales Association Convention
Nov. 18-19, LaSalle hotel, Chicago.

National Association of Practical Refrigerating Engineers Convention
Nov. 18-21, Del Prado and Sherry hotels, Chicago.

10th Exposition of the Air-Conditioning & Refrigeration Industry
Nov. 18-21, International Amphitheatre, Chicago.

National Warm Air Heating & Air Conditioning Association Convention
Nov. 18-22, Hotel Morrison, Chicago.

Ilg Electric Ventilating.

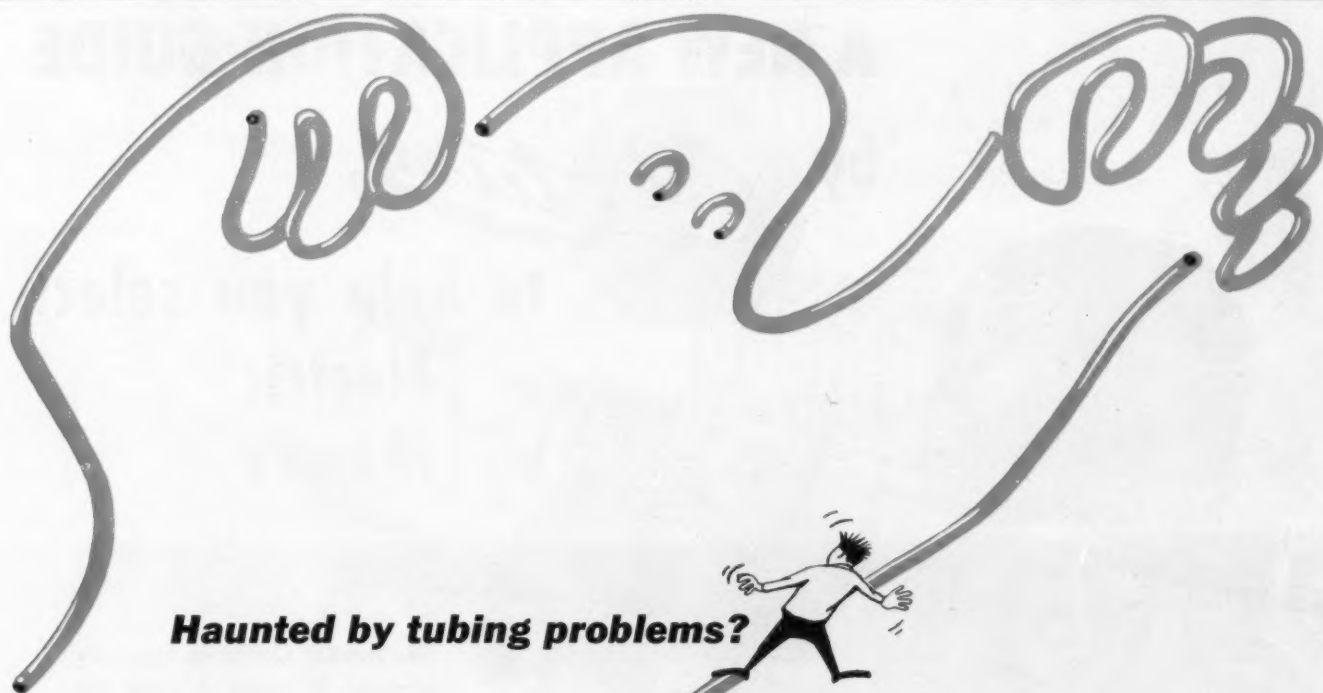
AMCA's Standards Committee develops and promotes industry acceptance of standards, definitions, and nomenclature for equipment such as centrifugal,

industrial axial and propeller fans; unit heaters; power roof ventilators; central station air conditioning units; and residential fans.

Named as members of the

Standards Committee are: H. R. Mathis, New York Blower; and Bohanon, Acme Equipment; H. G. E. Szekely, Bayley Blower Co., Milwaukee.

F. Brinen, Young Radiator; J. J. Friedler, Ilg Electric Ventilating; L. G. Malissa, Penn Ventilator Co., Philadelphia; J. W. Guardian building, Detroit.



Haunted by tubing problems?



RANDOM-LENGTH COILS OF GM STEEL TUBING ELIMINATE JOINTS AND SHORT-END WASTE!

Save from start to finish by always specifying GM Steel Tubing! It's tailored to your exact requirements . . . available in straight lengths or random coils up to 2000 feet. No costly soldered joints . . . no short-end waste . . . substantial time and material savings.

Furnace-annealed GM Steel Tubing facilitates fabrication, too. Intricate bends or hand forming operations are speedier and simpler. See Sweet's Product Design File (1a/Ro). Or for expert advice on any tubing problem, get in touch with your Rochester Products Sales Engineer or write us direct.

GM STEEL TUBING BY **ROCHESTER** PRODUCTS

ROCHESTER PRODUCTS DIVISION OF GENERAL MOTORS, ROCHESTER, NEW YORK

Servel Halts Refrigerator Production --

(Concluded from Page 1, Col. 2) discussion was only an informal gathering and not an official meeting of the AGA.

Servel told its stockholders that it has discontinued production of gas refrigerators in a proxy statement that announced a stockholders meeting on Sept. 11 in Dover, Del. Purpose of the meeting is to approve sale of the All-Year Gas Air Conditioning Div. to Arkansas Louisiana Gas Co. and to give directors authority to dispose of the firm's remaining assets. (See Aug. 19 issue of NEWS, page 1).

Servel told its stockholders that it had lost money on gas refrigerators every year since 1951, while sales volume had declined steadily and rapidly.

"Under all the foregoing circumstances," the proxy statement said, "the company's management came to the reluctant

conclusion that the continued manufacture and sale of these refrigerators at a loss to the company was unjustified and they, therefore, recommended to the board of directors that such manufacture be discontinued.

"The board of directors followed this recommendation and, accordingly, the company has discontinued the manufacture of

these refrigerators."

Production actually ceased on June 1, it was reported.

The proxy statement added that "the price structure in the entire refrigerator business continues very weak, and the production capacity of the industry is considerably in excess of the demands of the market."

The gas refrigerator situation since the end of World War II was pictured in these statistics contained in the proxy statement:

Fiscal Year Ended Oct. 31	Net Sales Refrigerators	Number Refrigerators	Net Profit or Loss* of Home Appliance Division**
1946	\$31,945,417	280,484	\$ 3,258,763
1947	47,472,880	319,548	6,261,548
1948	60,478,380	377,719	12,183,202
1949	29,406,078	200,978	260,661
1950	39,685,780	294,896	2,972,944
1951	29,317,683	174,584	(2,195,519)
1952	23,887,816	129,603	(2,148,034)
1953	22,885,801	118,254	(10,926,711)
1954	13,704,848	70,755	(9,378,508)
1955	14,836,502	75,834	(5,054,234)
1956	11,959,343	54,803	(1,581,016)
7 mos. ended May 31, 1957	4,583,625	21,093	(883,704)

*Parenthesis denotes loss.
** Before provision for income taxes.

Threatened by Possible Investigation

Sheet Metal Workers Again 'Settle' Secondary Boycott of Burt Products

CHICAGO—Faced with possible investigation by the Senate labor rackets committee, the decade old secondary boycott against the Burt Mfg. Co., Akron, Ohio manufacturer of ventilating equipment, was "settled" again at the recent AFL-CIO executive committee meeting here.

STEEL WORKERS HAVE CONTRACT

Burt has had a labor contract with the United Steel Workers for 10 years. But the Sheet Metal Workers union has claimed jurisdiction over the heating, air conditioning, and ventilating products that Burt manufactures. Employed by many contractors who would install Burt

equipment, the Sheet Metal Workers have refused to handle it, causing a continuing loss of business to Burt.

Last spring, a high ranking AFL-CIO committee headed by President George Meany attempted to settle the dispute. The committee ruled in favor of the steel workers and ordered the Sheet Metal Workers to end their boycott.

The sheet metal workers, according to reports, failed to do so. At the Chicago meeting, Meany talked with Robert Byron, president of the Sheet Metal Workers. Meany, according to a report, said that Byron denied the boycott continued.

Byron was said to have told Meany that if any tie-ups of Burt material were called to his attention, he would order his locals to install the equipment.

URGES INVESTIGATION

Earlier, Sen. Frank J. Lausche, Ohio Democrat, had urged Sen. John McClellan, chairman of the select committee to investigate improper activities in labor-management relations, to look into the Burt matter. It is reported that the committee is due to take up the case in October.

Sen. Lausche pointed out that despite the AFL-CIO order, the boycott continues.

"It appears that the Taft-Hartley law, in its secondary boycott provisions cannot be applied in this case because there is no conspiracy among employees," Sen. Lausche wrote.

"The identical impact of a conspiracy occurs when business agents of the Sheet Metal Workers union threaten a secondary boycott against contractors.

"This is a form of the 'hot cargo' clause and it is little more than an attempt to legalize by contract a secondary boycott. Lower courts have rendered conflicting opinions on 'hot cargo' clauses and the Supreme Court has not yet ruled on such a case.

"I think you will agree that these facts demonstrate that this boycott continues because of a legal vacuum, and I believe that this kind of situation is one which your committee wishes to rectify."

So. Calif. Strike--

(Concluded from Page 1, Col. 4)

Zones were set up for travel expense at zone rates beyond eight miles, increasing every three miles but eliminating travel time.

No overtime will be paid for residential heating emergency service after hours on regular work days October through January, up to four hours.

Apprenticeship fund payments of two cents an hour will be made until maximum contributions required of employers each year are reached.

The new agreement provides amendment of the welfare plan trust agreement so it will now read: "Agreement and declaration of trust for sheet metal workers' welfare plan for southern California, Arizona, and Nevada."

A NEW APPLICATION GUIDE

by *Century*

to help you select Electric Motors



This handy Guide is carefully planned to make it easy for you to select electric motors for all popular applications. Using the convenient tables inside, you simply start with the equipment or machinery you want to drive.

Then, you identify the character of the load, starting and running

torques, frame type, speed, etc., to arrive at precisely the right motor for your specific application. In just a few moments you know the motor type you need, the dimensions and other pertinent data.

Because Century offers a complete line, this handy manual will guide you to the right motor for your application. Obtain your own copy of this 12-page reference manual.

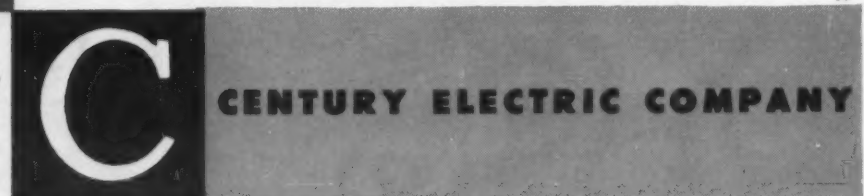
MAIL COUPON
TODAY FOR
YOUR FREE COPY

CENTURY ELECTRIC COMPANY
1806 Pine St., St. Louis 3, Mo.

Please send me the new Century Application Guide CE-99.

Name.....
Company.....
Address.....
City..... Zone..... State.....

Performance-Rated®
MOTORS
1/20 to 400 HP



1806 Pine Street • St. Louis 3, Mo. • Offices and Stock Points in Principal Cities

For more information about products advertised on this page use Information Center, page 16.

Plastic Curtain Holds Truck Temperature 7.2°F. Colder, Cuts Cold Plate Dripping

WASHINGTON, D. C.—A curtain inside the door of frozen foods delivery trucks is credited with helping to maintain low temperature and prevent excessive wetness of the truck's interior.

Made of polyester plastic film, reinforced with neoprene-coated nylon, the curtain was installed in each of five trucks and tested by the U. S. Department of Agriculture, Transportation Section, under actual operating conditions during the summer of 1956.

3.2° F. SMALLER RISE

Temperature checks on two of the trucks showed that use of this type of curtain resulted in a 3.2° F. smaller rise in product

temperature and a 7.2° F. colder inside air temperature as compared with operation without the curtain.

Dripping from cold plates used in the trucks was eliminated except for slight wetting near the truck door. It also eliminated the need for dry ice, which one operator had been using on another two of the five trucks as a supplement to the cold-plate refrigeration, resulting in a saving of over \$3 per truck per day.

CONDITION GOOD

The five curtains were examined at the end of the summer and they were all found to be in good condition.

The curtain was designed by Robert F. Gilfoy, Jr., of the Transportation and Facilities

Branch, Agricultural Marketing Service, of USDA. A descriptive pamphlet, containing plans for fabrication and installation, Marketing Research Report No. 176, is available by writing to USDA, Agricultural Marketing Service, Marketing Research Div., Washington, D. C., enclosing 15 cents.

Accepts Cooler Bid

DONALDSONVILLE, La. — The Ascension parish school board has accepted a \$2,230 bid submitted by B. Lemann & Brothers, Inc. here for a walk-in sectional cooler for Donaldsonville high school.

To Build Drive-In Bank

DAYTONA BEACH, Fla. — First Atlantic Bank has announced plans for construction of drive-in bank facilities here. Five air conditioned drive-in teller booths will be beneath the east-west section behind the Seabreeze Boulevard bank.

'Impervious to Rot'

Offers Light Plastic Refrigerator Door for Walk-In Coolers, Trucks

PERKASIE, Pa.—Strick Plastics has introduced an all-plastic refrigerator door, for walk-in refrigerators and refrigerated trucks, that it claims is impervious to moisture-rot, corrosion, rust, warpage, and weighs substantially less than its wooden counterpart.

Called the Strick "Lamiplast," the new plastic door is offered with facings of "Lamikor," a glass-fiber reinforced polyester laminate; "Lamiclاد," a Lamikor press-bonded to outdoor grade plywood on both

sides and edge-sealed with epoxy resin; or aluminum. The door pan is vacuum-formed from high-strength copolymer thermoplastic sheet.

According to a company spokesman, the Strick Lamiplast doors' light weight—a 65-lb. door replaced a 350-lb. door in a shipboard application—immunity to dampness, high impact strength, high thermal insulation, make the Lamiplast door especially adaptable to walk-in freezer and truck and railroad car use.

Calif. Refrigeration Specialties Firm Moves

ANAHEIM, Calif.—Soden Refrigeration Specialties Co. has moved to its new plant at 11041 U. S. Highway 191, a third move

to newer and larger quarters since being established in 1938. The company handles air conditioning and refrigeration.

6½ to 18-Hp. Diesels Developed for 'Reefers'

INGLEWOOD, Calif. — Air-cooled 6½ to 18-hp. diesel power units for railroad car refrigeration are a new development of American M.A.R.C. of Inglewood.

According to W. Denis Kendall, president of American M.A.R.C., these engines are capable of upwards of 10,000 hours of continuous running in any weather without failure.

Prior to this new use, almost the entire production of American M.A.R.C. diesels has gone to the U. S. Navy and Marine Corps principally for electric generating units and auxiliary power units.

USDA Gives Comparative Job Performance for 'Reefer' Cars

WASHINGTON, D. C. — "A Performance Test on Refrigerated Rail Cars," has been published recently by the Agricultural Marketing Service of the United States Department of Agriculture.

The report gives results of comparative performances of two types of mechanically refrigerated rail cars and a standard water-ice and salt refrigerated car hauling packaged frozen corn from Waseca, Minn., to Jersey City, N. J.

Tests covered pre-cooling time, air and commodity temperatures within the cars, and out-of-pocket refrigeration costs.

The pamphlet is available by writing the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., and enclosing 20 cents.

Background for DEPENDABILITY



You'll find a new reflection behind long famous Brunner Condensing Units.

It's a reflection of the recently acquired prestige in joining Dunham-Bush . . . supplier of a complete line of dependable air conditioning, refrigeration and heating products.

It's a reflection of the ever available Brunner and Dunham-Bush sales engineer. He's near-by your town to help you solve problems . . . prevent problems. And remember, he represents not one but *three* great industries, air conditioning, refrigeration and heating.

This dual dependability is your assurance of even better Brunner products.

BRUNNER DIVISION
DUNHAM-BUSH, INC.
UTICA, NEW YORK



MIGHTY MITE
THERMAL PROTECTORS

FOR
MOTOR
OVERLOAD
PROTECTION

MECHANICAL INDUSTRIES
PRODUCTION COMPANY
223 ASH STREET - AKRON, OHIO

Book Shelves Provide Keys to Installation

Contractor's Construction Knowledge, Favorable Home Design Results In Efficient Central Air Conditioning

COLUMBIA, Mo.—A contractor's thorough knowledge of construction, coupled with a favorable home design, has resulted in an efficient central air conditioning system in an existing home, with only a negligible amount of remodeling and redecorating.

Owned by nationally-known Stephens college, the residence is occupied by its president, Dr. Thomas A. Spragens, and his family.

Mrs. Spragens, especially, was gratified that so few changes were required for the installation of the 3-ton and 5-ton Chrysler Airtemp systems, which condition some 16 rooms on two floors.

A small area around the dining room grille was repainted, a supply duct passing from the breakfast room to the dining room was papered to match adjacent walls, and a hallway corner was plastered to furr in a supply duct.

Supply Ducts, Grilles Set In Bookcases

Large sealed-in bookcases in the living room were used to run two supply ducts and grilles, requiring only grille painting. The installation did not mar the architectural beauty of the 3-story brick home in any way.

The book shelves and a laundry chute, extending through the center of the house from the third floor to the basement, proved to be keys to the installation.

With a knowledge of home construction gained from selling insulation, Allen Baker, of the local Baker-McClintic Co., Airtemp dealership, utilized ready-made aids: unfinished attic space, an abundance of closets, a recessed radiator space and the ceiling louver for a once used attic fan.

Exhibit "A" in Baker's case for installing a central system without expensive and unsightly remodeling was the bookshelves. Sealed up the previous year, the space not only tucked supplies out of sight but provided for high sidewall grilles, essential for college teas and similar gatherings.

Exhibit "B" in Baker's project, the 12 by 12-in. laundry chute played an important role as a supply to the first and second floors. A sun room, the breakfast room, and the kitchen are conditioned directly from the chute, while other rooms are served by supplementary ducts elbowed from the shaft.

Drops Supply Runs Through Closets

With plenty of closets in which to hide ducts, Baker laid supply runs off the 3-ton system in the attic and dropped them through closet ceilings to condition the second floor.

He strung ducts from the 5-ton system along basement ceilings and up through closets to supply the first floor, as well as a study and a bedroom on the second floor.

One of the artful touches was threading a supply for the master bedroom off a plenum

through an attic space between a dormer and the eave on the third floor.

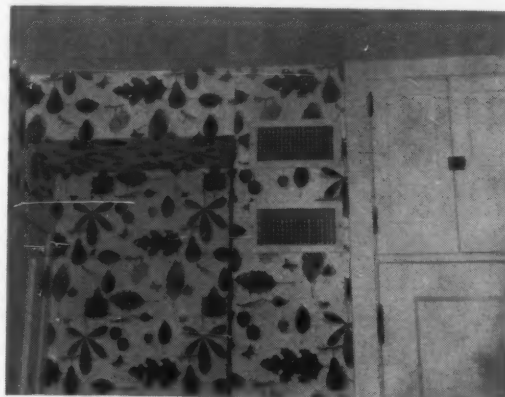
Another supply duct was joined to the top of the laundry chute, which connected to another bedroom and a sunroom.

The first floor return is

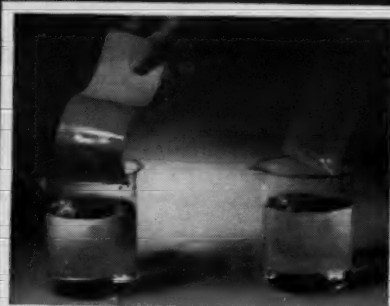
through a grille for an old radiator, recessed under the stairs to the second floor. Air used on the second floor returns through "egg crate" louvers originally built for an exhaust fan.

Faced with the prospect of an

(Continued on next page)



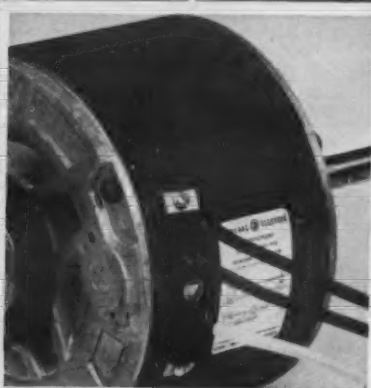
SUPPLY DUCT (top center to left) in the breakfast room runs over the back stairway into the dining room wall. This was one of three small redecorating jobs required. Two grilles, set directly in the laundry chute, supply the breakfast room and the adjoining kitchen. A food closet (right) conceals an elbow to a sunroom.



MYLAR® POLYESTER FILM INSULATION has 35 times more moisture resistance than ordinary paper insulation—means longer motor life.
*Reg. Trademark of Dupont Co.



PROTECTIVE COATING of polyester varnish on stator and shell assembly resists moisture and corrosion—contributes to quiet operation.



QUICK-CONNECT TERMINALS permit fast, easy connection of motor leads, facilitate standardization, and save you time and money.



LARGE OIL SUPPLY and carefully designed retention system mean shaft is constantly bathed in filtered oil—assure longer bearing life.

the most

THIS 5-ton Chrysler Air-temp condensing unit and a 3-ton unit (out of picture at right) sit unobtrusively behind trees in a corner formed by outside walls. Visitors say they never notice the equipment, which overlooks a busy street.



Efficient Central System - -

(Continued from preceding page) The 5-ton blower-coil system, exposed supply in an entrance hall to the guest section, just off the living room, Baker ran the duct up the wall at a corner. After the duct was furred and plastered, one would have thought the rounded contours were part of the original design. "It seems indispensable now"; thus President Spragens briefly appraises the job.

Fresh air is brought in a basement window through a 16 by 6-in. duct into a sealed joist space of return air. Refrigerant lines proceed under joists directly to a 5-ton air-cooled condens-

ing unit outside. Located behind some small trees and on an elevation some 8 ft. above the street, the 3 and 5-ton units are not noticeable to passersby.

An 18 by 43-in. plenum on the evaporator-coil system connects to three branches:

(1) A 10-in. round insulated duct runs between joists over the maid's basement room and up through the floor into the bookcase spaces. Grilles were placed at each end of the long room, 8½ ft. up on the 10-ft. walls.

Without the happy circumstance of the built-in shelving, which afforded ample duct space, Baker would have had to resort to floor grilles, with resulting drafts, he said.

No Retouching Needed

The plaster walls were cut so cleanly that no retouching was required. The grilles were painted a matching color with surplus paint from the last redecoration.

(2) A 12 by 12-in. run to the adjacent clothes chute serves the breakfast room with a supply grille 7 ft. up the wall, while another grille at 8½ ft. carries conditioned air across to the kitchen.

An elbow branch to a sun room is hidden in a food closet, adjacent to the old laundry chute. A duct to the dining room is camouflaged in the breakfast room with wallpaper but it exposed above the adjoining back stairwell to the second floor.

(3) A 12-in. round duct hugs exposed joists, then penetrates the floor to the reception hall, the other end of the living room, the guest rooms, President Spragens's study and Tom, Jr.'s room on the second floor.

Return Air System

Return air to the 5-ton system is taken from the central hall through a radiator grille recessed under the stair closet, through floor grilles into three floor joist spaces and thence into the rear of the blower-coil section.

A thermostat and 3-way switch, with "off," "fan," and

(Concluded on next page)

FOR YOUR AIR CONDITIONING EQUIPMENT . . .

dependable G-E fan motor yet!

Now, your choice of either shaded-pole or permanent-split-capacitor in one frame design.

You need General Electric fan motors with *all* their advanced features to give your customers the *ultimate* in long motor life and dependable operation of your air conditioning units.

G-E fan motors are *built to last!* Every design innovation is carefully developed and exhaustively tested. Materials are specifically chosen for quality and durability.

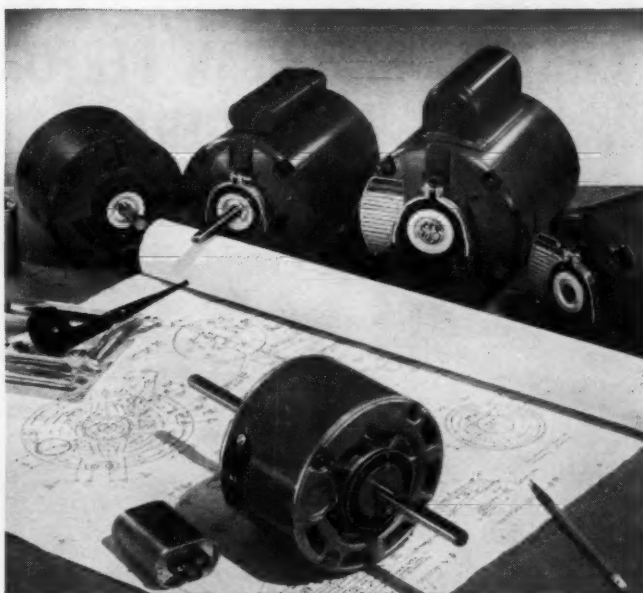
Unified insulation system gives optimum protection against moisture, heat and electrical stresses. Superior lubrication system has high oil retention, rapid recirculation; provides bearings with cool, filtered oil. These features give you *dependable, quiet* motor operation. In addition, both motors (shaded-pole and permanent-split-capacitor) offer these important advantages.

SMALL SIZE: Short length (3.5" over-all) and lower temperature rise permit more compact unit design.

TOP PERFORMANCE: G-E fan motors have electrical characteristics that offer the optimum in low current, speed control, stability and application flexibility.

VERSATILITY: Ratings to ¼ hp in both shaded-pole and permanent-split-capacitor designs are available in *one* motor size at either 1050 or 1550 rpm!

All these features make G-E fan motors ideal for your air conditioning units. For more information, call your G-E Apparatus Sales Office or write Section 702-57, General Electric Co., Schenectady, New York.



A COMPLETE LINE of motors for nearly all types of fans and blowers is available *now* in General Electric's years-ahead "Form G" design. This outstanding line includes capacitor-start, split-phase, shaded-pole and permanent-split-capacitor type motors.

GENERAL ELECTRIC



FAST SAMPLE SERVICE is tailored to meet your specific requirements. See General Electric first for the fastest sample service.



APPLICATION ENGINEERING AID is available from G.E. to assure you of exactly the right motor for your product.



PROMPT LOCAL REPAIR SERVICE is provided by nationwide network of Small Motor Service Stations.

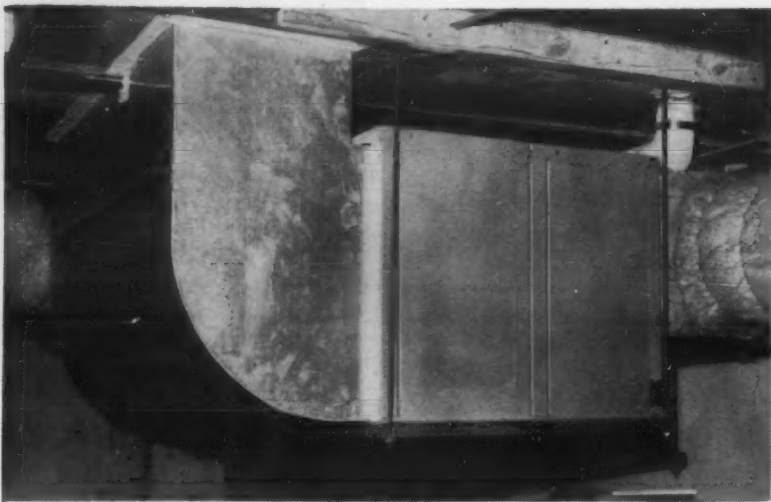


THE ORIGINAL, PATENTED CROSS-FIN COIL

The refrigeration coil that changed an industry stands today unchallenged for performance, user satisfaction and lasting durability. Made from the finest materials by skilled craftsmen under exacting standards, every Larkin Coil features imbedded fin-to-tube contact, swaged connection, silfos welded construction, and staggered tubing. Write for complete details.

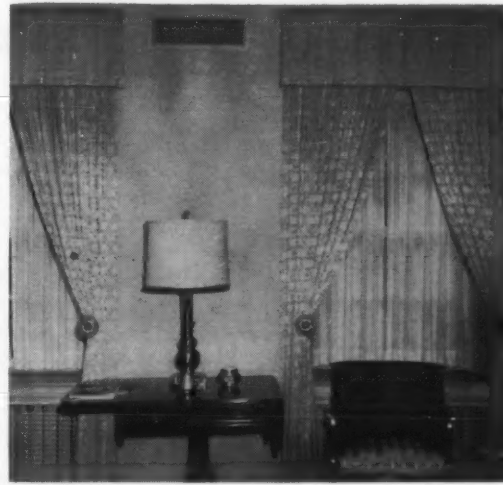
Manufacturers of the original Cross-Fin Coil
• Humi-Temp Units • Frost-O-Trol Hot Gas Defroster • Air Cooled and Evaporative Condensers • Cooling Towers • Air Conditioning Units and Coils • Direct Expansion Water Coolers • Heat Exchangers

LARKIN COILS
319 MEMORIAL DR., S.E. • ATLANTA, GA.



AIR from first floor returns to this 5-ton blower-coil system through a floor grille in a stairway closet. Fresh air comes in through window directly behind blower-coil section.

BLENDING with the modern draperies and period furniture, this high sidewall supply grille is one of two providing comfort for the Spragens' living room.



an unused bathroom window on the third floor. A thermostat and 3-way switch were placed in the hall near the return.

Mrs. Spragens is thankful for the installation, "mainly because the children sleep better."

"I was worried about polio," she says, "because they got rather tired in hot weather. Now they wake up full of energy and don't tire so quickly, although they play continually. I don't have to urge them to take exercise."

President Spragens suffered in the past when he came home from an air conditioned office to a hot house. Now, he says, he is fresher in the morning after a cool night's sleep.

'Better Dispositions'

"The family's dispositions are better," beams Mrs. Spragens, "and we make fewer trips to air conditioned restaurants and theaters to escape the heat."

Baker-McClintic also installed three Chrysler Airtemp Imperial units in the 100-year-old home of President and Mrs. Elmer A. Ellis of the University of Missouri.

This June they air conditioned the home of President and Mrs. Kenneth B. Freeman of Christian college. This system consists of two "1100" series Airtemp units, one in the attic to condition the second floor, with ceiling diffusers, and one on the first floor, with baseboard diffusers and high returns.

Each of these three "presidential" jobs required "imagineering," follow through—and service. Both Baker and Maurice McClintic, partners in this Airtemp dealership, feel that service is their best insurance for repeat sales.

All of the "presidential" sales were due largely to Baker-McClintic's reputation for maintaining the equipment they install.

Fly Diffusers In

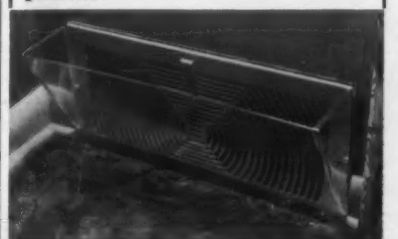
HARTFORD, Conn. — Operation "Calendar Shift" cut two days from the scheduled completion date of an air conditioning system at Republic Aviation's Farmingdale, L. I. plant.

Anemostat air diffusers were loaded aboard a plane owned by the contractor, United Combustion & Air Conditioning Corp. at Hartford. Twenty minutes later, the diffusers were landed at Republic's field at Farmingdale. Conventional shipment requires two days.

The plane is a Beechcraft "Bonanza" piloted by Jacques Segal, president, United Combustion & Air Conditioning, which installed the system.

AIR DEFLECTORS

For installation on wall registers for perfect air conditioning comfort. Made of crystal-clear heavy plastic.



— write —

DEFLECT-O COMPANY

1704 Trumbull St.
Indianapolis, Indiana

Efficient Central Home Unit--

(Concluded from preceding page) A 3-ton blower-evaporator-coil "cool" positions, are located in section, serving four bedrooms the reception hall near the return grille. and two baths on the second floor, rests over a bathroom,

keeping noise at a minimum. "Ultralite" insulation helps reduce blower and air noise. Baker, ever insulation conscious, covered the laundry chute openings with Ultralite to prevent condensation, then sealed them.

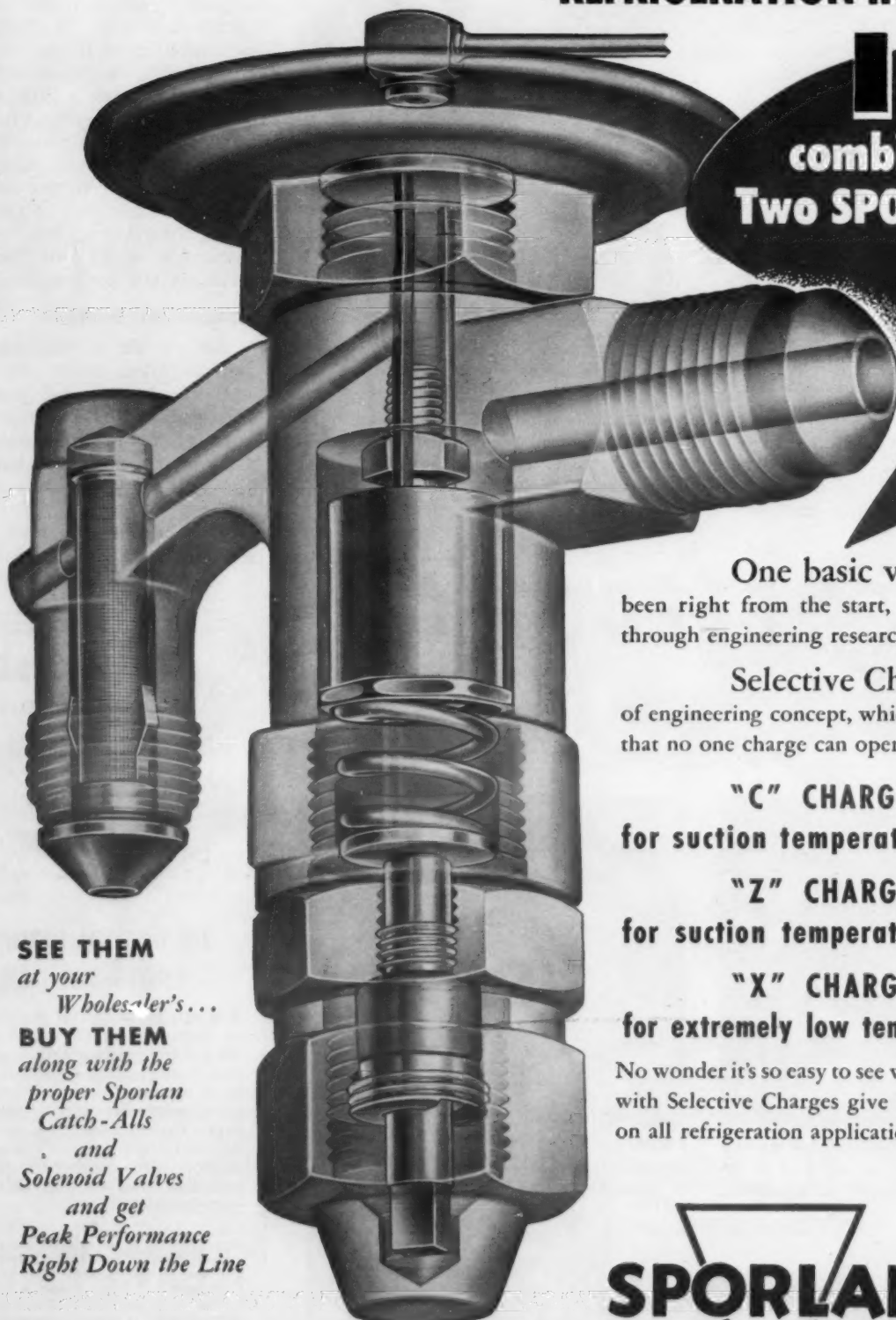
The 3-ton condensing unit for the second floor rests on the ground beside the 5-ton unit;

the refrigerant lines and conduit follow a TV antenna to the third floor, the copper pipe blending well with the deep red brick wall.

Fresh Air Brought In via Window

Fresh air is brought to the 3-ton unit through the bottom of

It's so Easy to See Why SPORLAN G VALVES with SELECTIVE CHARGES give PEAK PERFORMANCE on ALL REFRIGERATION INSTALLATIONS



It's the combination of Two SPORLAN Firsts that date back to 1934

One basic valve design that has been right from the start, plus constant refinement through engineering research.

Selective Charges, then an unheard of engineering concept, which today keep on proving that no one charge can operate on all applications.

"C" CHARGE
for suction temperatures ABOVE ZERO

"Z" CHARGE
for suction temperatures BELOW ZERO

"X" CHARGE
for extremely low temperatures

No wonder it's so easy to see why SPORLAN G-Valves with Selective Charges give PEAK PERFORMANCE on all refrigeration applications... they always have!

SEE THEM
at your
Wholesaler's...
BUY THEM
along with the
proper Sporlan
Catch-Alls
and
Solenoid Valves
and get
Peak Performance
Right Down the Line

SPORLAN VALVE COMPANY

7525 SUSSEX AVENUE • ST. LOUIS 17, MISSOURI



EXPORT DEPT.
AD. AURIEMA INC.,
89 BROAD ST., NEW YORK 4, N. Y.

Design and the Serviceman

Utility Official Asks Manufacturers To Design Equipment To Facilitate Repair, Replacement Work

DETROIT—A big challenge of the appliance industry is "continuity of service," E. O. George, vice president of Detroit Edison Co., told the eighth annual appliance technical conference, American Institute of Electrical Engineers.

The conference was sponsored by the committee on domestic and commercial applications, subcommittee on domestic appliances, and the Michigan Section, AIEE.

George pointed out that new designs of appliances too often incorporate additional problems in servicing. Manufacturers should consider the problems of the serviceman in product design, he stressed.

The appliance and electrical industries have made tremendous strides in furthering the two basic programs among consumers, adequate wiring—"Housepower"—and the "Live Better Electrically" concept, but the third "promotional leg," service, must be improved upon, George said.

Complex Designs Offer Service Problems

The utilities have faced their responsibilities in providing reliable and continuous electric power to the consumer, but the complex designs of modern appliances have brought about service problems to overcome.

Among other things, he cited the example of built-in appliances. They are a "wonderful innovation, but from the service point of view, are 'desperately in need of attention.'"

"For example," George said, "very few of them can be serviced from the front—which means that if something goes wrong, the serviceman must unbuild the built-in to repair it."

"Naturally, this is a costly and time-consuming thing to do and many complaints have been received from customers about it. Then, too, many times the customer's floor or counter is damaged in some way which presents an additional problem."

Built-Ins Should Allow For Service from Front

George urged the design of appliances that do not require major tear-down for replacement of minor components, such

as belts, etc. In the case of built-ins, he said, they should be designed so that as much service as possible can be done from the front and so they can be taken out of the wall or counter easily without tearing up a linoleum floor or ripping out a piece of a counter.

"Certainly, the design of an appliance poses complicated problems," he stated. "First of all, an appliance must have eye appeal or sales appeal. Second, it must be designed so that it will perform easily and effectively—the function for which it was intended."

"In both of these things, you people have done an outstanding job. However there is a third

requirement which is sometimes overlooked—appliances should be designed so that parts are accessible to the serviceman and repairs should be made as simple as possible.

"Perhaps this service business may strike you as a minor or unimportant problem. Particularly so since the trend today is to designing appliances for obsolescence.

"Now, I am not in any way criticizing the obsolescence idea. On the contrary, I think it is a wonderful thing both for the industry and the consumer. It results in better products and more rapid development of new products."

"More importantly, it con-

stantly stimulates consumer interest in new and better appliances. Because of obsolescence, appliances today are being built with better styling, better design, more sales appeal, and improved performance," the speaker said.

Future Depends on Satisfied Users

"However . . . just because an appliance is only going to be used for a few years doesn't mean that service on that appliance can be overlooked or ignored. Because, in a very real sense, the future of our product—electricity—and your product—appliances—depends on having satisfied users."

"Can we have satisfied users without good, fast, and reasonable service? We don't think so, and I am sure you don't either."

"Our job isn't complete unless and until we can solve the problems and meet the challenges facing us," he also stated. Spe-

cifically, today we are faced with the challenge of all electric living. To meet it we must measure up to the problems and responsibilities inherent in that concept.

"By that I mean we must be prepared to offer our customers complete electric service with everything that the term implies. This means offering them new and better appliances, it means offering them dependable, continuous electric service, and it means providing for them dependable, easily serviced electric appliances."

"I said 'our job' and that's exactly what I mean. All of us have a big stake in this thing and all of us have a part to play in promoting and supporting the all-electric living concept. . . . I know that you will meet this challenge—the challenge to design for obsolescence and sales appeal; the challenge to design for better usability, durability, and serviceability."

Apply this insulation adhesive safely anywhere on the production line!



HERE'S DRAMATIC PROOF THAT WATER-DISPERSED 3M ADHESIVE EC-321 WON'T BURN EVEN WHEN IT IS SPRAYED OVER AN OPEN FLAME!

Now with 3M Adhesive EC-321 you can bond insulation to air-conditioning cabinets swiftly and safely—without spray booths or ventilating hoods. This water-dispersed adhesive won't burn when wet. What's more, EC-321 has exceptionally high heat resistance. It's safe to run metal parts through a paint-baking cycle right after insulation is bonded.

Fast-acting EC-321 grips the insula-

tion immediately—has high wet strength. Production can continue as complete drying proceeds. EC-321 is easy to apply with spray gun, brush or roller. Moisture and vibration of the air-conditioning unit do not affect the bond. EC-321 is excellent for bonding insulation in heating units, too.

SEE WHAT 3M ADHESIVES CAN DO FOR YOU!

Consult 3M Research. Contact your

3M Field Engineer. Or for information and free literature, write on your company letterhead to: 3M Dept. 138, 417 Piquette Ave., Detroit 2, Mich.



MINNESOTA MINING AND MANUFACTURING COMPANY • ADHESIVES AND COATINGS DIVISION

417 PIQUETTE AVE., DETROIT 2, MICH. • GENERAL SALES OFFICES: ST. PAUL 6, MINN. • 99 PARK AVE., NEW YORK 16, N. Y. • CANADA: P. O. BOX 787, LONDON, ONT.

Calumet & Heda Starts Seamless Copper Tubing Plant In London, Ont.

LONDON, Ont., Can.—Completion of steel erection for what is believed to be the first Canadian mill devoted exclusively to production of seamless copper and copper base alloy tubing was announced here by D. D. C. McGeachy, vice president and general manager of Calumet & Heda of Canada, Ltd.

Located on a 30-acre site in the industrial park area of London, the new plant consists of a main fabricating building 822 ft. long and 104 ft. wide, and a separate structure to house engineering, stores, and service facilities.

Air Conditioned School--

(Concluded from Page 1)

daily, 12 month each year, for either adult or young adult programs. Year-round air conditioning of the school plant helps make this possible."

Many Areas Have Widely Varying Loads

The San Angelo campus will include separate academic units for sophomores, juniors and seniors, a library, an electives building, administration-cafeteria building, fine art building, shop, physical education building, and an 1,800-seat gymnasium with an enclosed swimming pool.

The many separate areas created by the campus-type plan will have widely varying heat loss and gain characteristics as a result of different design, exposure, and occupancy. Some

areas will require cooling at a time others require heating.

For example, because of relatively high heat gain from lights and people, it is logical that the auditorium and cafeteria will require cooling while other portions of classroom areas may require some heating.

Maintaining comfort conditions, therefore, will necessitate an infinite number of steps of heating and cooling capacity from approximately 5 to 100% of total load.

To meet the variable cooling requirements, two 200-hp. Trane "CenTraVac" hermetic centrifugal compressors with automatic capacity control were chosen to chill the water for the central system.

The CenTraVacs connected in parallel, along with two boilers delivering two separate water

temperatures, will be located in a central equipment room. They will supply chilled or heated water through a network of large piping loops running through underground tunnels around the campus.

Each building will have its take-off from these loops and its own circulating pump. Air handling units will consist of 33 Trane "Climate Changers" in the various zones.

The academic units are two classrooms wide, split by a central corridor, and six to 12 classrooms long. The Climate Changers will be located in individual equipment rooms in the middle of the corridors. Ductwork furred into the ceiling will deliver conditioned air to six adjacent classrooms.

Because of their common heat gain and loss characteristics, all Climate Changers serving classrooms and the library will have a single coil for both heating

and cooling. Since humidity will be a problem in these areas, the units' output will be controlled by face and by-pass dampers.

The administration, cafeteria, and similar areas will be served by Climate Changers with two water coils, one each for heating and cooling. Units in these areas will be controlled by three-way valves.

The shop, physical education building, and gymnasium are heated only by single water coil units.

Because they are sized for cooling, the single water coil units supplying the classrooms and library employ a different range of graded temperature hot water than those water coils in dual-coil units and units for heating only.

The two boilers supply water at two different temperatures—high temperature water for the administration wing, auditorium, and physical education

building and low temperature water for the academic wings of the structure.

Solving Horsepower Problems

One imposing problem was the expected excessive horsepower requirements of the hot and chilled water circulators needed to serve the extreme ends of the piping runs.

Horsepower problems were solved by arranging the piping into three main piping zones—one for the heating lines that serve dual coil units and heating units only, one for chilled water lines serving dual-coil units and one for hot water and chilled water lines serving single coil heating and cooling units.

Each pump is sized to circulate the maximum demand for water through a single loop which is closed at the extreme end. With this method the pumps selected needed only to be sized to overcome the friction head in the main piping loop.

Supplementary pumps in each building and for each major zone in each building handle water quantities out of these main loops and overcome the balance of the head in the system.

Control Sequence Virtually Automatic

The control sequence is virtually automatic. When any one Climate Changer is turned on, an end switch will start the operation of the zone circulator. This, in turn, activates the main circulator through an auxiliary switch.

The CenTraVacs are interlocked so that they will not operate at any time the chilled water circulators are not in operation.

Some trouble was encountered in arranging piping and valves with suitable controls for the change-over from heating to cooling in the piping zone serving the single coil Climate Changers.

Even though the temperature in these lines might fall as low as 100 or 105° F., such high temperature water could not be permitted to be directly introduced into the CenTraVacs.

The problem will be solved by operating both CenTraVacs at the time any change-over is made. Warm water from the single coil piping system will then be mixed with chilled water from the other dual-coil systems and bring the water down to allowable entering temperature.

Electronic Thermostats

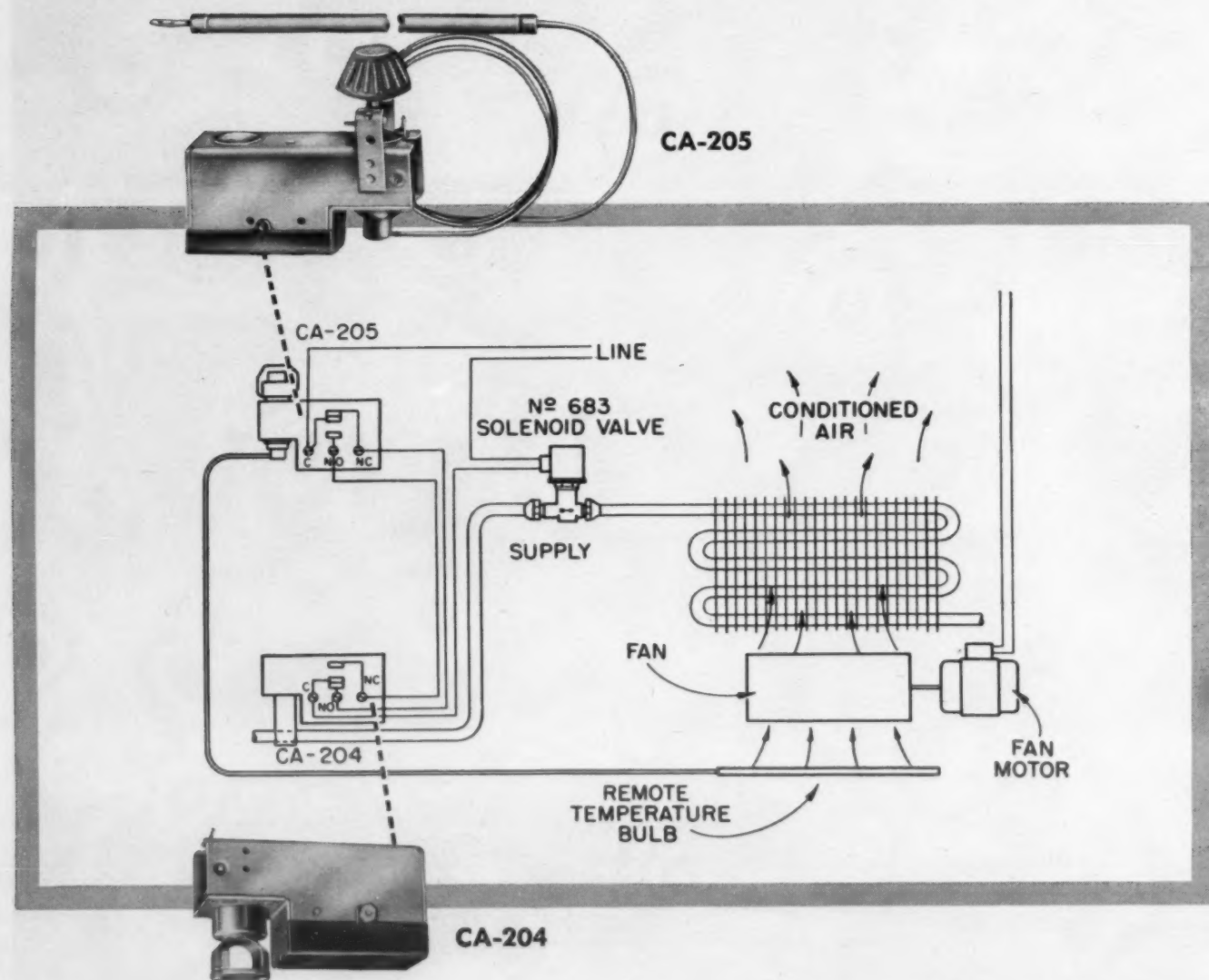
Remote reading of temperatures in any area which has a thermostat will be made possible by the combination of an IBM electronic signal transmitter with the zone electronic thermostats.

Only two wires will run in parallel throughout the buildings and these are connected to a common wire to each thermostat. The second wire from each thermostat is switched through an electronic dual coded relay.

With this arrangement an operator in the central equipment room can push a button and the signal transmitter will impose a signal on the entire electrical system. This coded signal will be picked up by the coded receiver which will close the switch and permit the reading of a temperature in any selected space.

A Combination Hard to Beat...

Detroit's CA-204 Indexer Control and the CA-205 Air Control



In fan and coil year 'round systems, where hot or cold water is piped to individual air conditioners located in separate rooms, the combination DETROIT CA-204 and CA-205 Thermostatic Controls allow individual selection of the temperature desired from each unit.

The CA-205 controls room temperature as desired, the CA-204 "indexes" to summer or winter operation depending upon the water being furnished. This combination is hard to beat in performance and in initial cost.

For complete engineering data, write today for Bulletin 269.

Quality Protects Your Investment-- AMERICAN-Standard Quality Is Available At No Extra Cost.



5900 Trumbull Avenue
Detroit 8, Mich.

DETROIT CONTROLS

Division of AMERICAN-Standard



Canadian Representatives: RAILWAY AND ENGINEERING SPECIALTIES LTD., Montreal, Toronto, Winnipeg

For more information about products advertised on this page use Information Center, page 16.

Distributors' Conditioning Sales Rise 10.7% In June, Utility Says

ST. LOUIS—Air conditioner sales by distributors in this area burgeoned 10.7% in June over May of this year, the Union Electric Co. reports.

However, sales were clipped 40.8% off from June, 1956 and decreased 25.6% in the first six months as compared with the like period last year.

There were 1,259 ¾-hp. and under air conditioning units sold in the territory in June as against 1,188 in May and 2,757 in June a year ago. In the 1-hp. and over classification there were 2,066 units sold this June compared with 1,815 in May and 2,860 last June.

Figures for the first six months in each category were: 6,295 in 1957 and 9,400 in 1956 (¾ hp. and under); 8,625 this year and 10,667 last (1 hp. and above).

Dehumidifier sales continued to zoom along during June, jumping 75% over May and 164% over a year ago. For the first six months dehumidifier sales were up 158%.

Some 393 were sold in June as compared with 224 in May and 149 in the previous June. Dur-

Decorator Advises Make Room Look Cool: Conceal Window Unit

NEW YORK CITY—Conceal your window air conditioner if you want your room to look as cool as it feels, advises William Gulden, decorator and former president of American Institute of Decorators.

Gulden contends that there is nothing cooling to the eye about an air conditioner standing unconcealed in a window.

He says screens can do a tasteful job of hiding it and those made of rattan, reed, or cane will allow circulation of air. Or try a lattice-work screen.

Bamboo shades also camouflage air conditioners, as do louvered shutters which fold back like telephone booth doors.

Gulden recommends building a frame out from the window and attaching shutters or shades to it. Or several tiers of cafe curtains will do the trick. He said it's better to put the air conditioner to one side rather than in the middle if you have several windows.

The ideal air conditioner, according to Gulden, is one with removable panels which can be covered with fabrics or wall paper to match the color scheme. He also noted that some air conditioners are covered in veneers or colored metals to give the appearance of a chest of drawers.

FAN BLADES

12" - 15" - 16" - 20"
22" - 24" - 30" - 36"
42" - 48" & 54"

Other sizes made to your specifications.

WIRE GUARD, SHELVES, ETC.

C&H Air Conditioning Fan Company, Inc.
1891-1823 DEKALB AVE.
ATLANTA 7, GA.

PRECISION QUALITY SINCE 1915

Physician Pats Room Air Conditioning on Compressor Head; Likes Allergy Relief

CHICAGO—Air conditioning, as a means of relieving the misery of hay fever, got a big pat on the back from Dr. Joseph G. Molner, who writes a health column in the Chicago Sun-Times. Dr. Molner wrote, "... air conditioning can, indeed, do some good for hay fever sufferers. And if they can do good, I see no reason why I shouldn't say so, even if the air conditioning people make money from what I say. After all, is there anything wrong with making a profit if you deliver the goods?"

"The best advice I can offer is that people with hay fever do a bit of investigating themselves. Mrs. J. G. (who wrote praising the relief she got from a window unit in her bedroom) was fortunate, I think, in find-

ing that air conditioning one room made her home livable.

"I know that in some instances, hay fever victims were comfortable in a filtered room, but the sneezing and wheezing started when they moved to another room in the house. But having one room that assures relief is a blessing indeed.

"If I had hay fever, I think I'd ask the dealers to let me stay in a room air conditioned by their devices for 15 or 30 minutes, to see which worked the best for me."

Mrs. J. G. told the doctor, "I threatened to leave my family and go north to a city where the pollen count is 2. But that would have been expensive, too. In the long run air conditioning is cheap."

WASHINGTON, D. C.—Almost 20,000 copies of the room air conditioner booklet, "Everybody Talks About the Weather—Now Look What You Can DO About It" has been distributed by ARI headquarters by the end of July.

The booklet was prepared at the direction of the Public Relations committee of the Room Air Conditioner Section, and is available to ARI member companies in lots of 100 or more at \$5 per 100. It has been offered to the public at the price of 10 cents per copy.

More than 3,800 individual requests for the booklet have been handled by ARI's public relations department, as well as requests for bulk shipments totaling upwards of 16,000 copies.



"One of the best in the industry J. B.

Year after year he saves us time and money by ordering the parts and tubing we need long before the air conditioning rush begins."

Sending us your specifications now will let us fit your requirements into future production schedules in the most economical way. By going to a plant with more than 25 years' experience in the fabrication and redraw of tubing, not only will you be assured of the parts and tubing you need when you need them, but you may save money, too.



Expect the BEST
brass and copper
products from

H & H

TUBE AND MANUFACTURING CO.

271 N. Forman Avenue, Detroit 17, Michigan • Offices from Coast to Coast



METALFLO



LOCKSEAM



COIL STRIP



SEAMLESS TUBING



TUBULAR PARTS

For more information about products advertised on this page use Information Center, page 16.

Inside Dope

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

Congressmen, preachers, and stenographers.

And occasionally they like relief from grimly serious treatises about their occupations. The Marx-Hegel myth of Economic Man (who is interested only in money) now is believed only by Communists.

Upon that truism "Inside Dope" was established 28 years ago—and we're still in business. Sure, most of the time "Dope" treats businesslike subjects seriously, while introducing industry problems with pertinent jokes.

But there come times . . . like now, the Summer Solstice . . . when most of us relax and just have fun—and forget our worries. Herewith more smiles.

Relax and Enjoy It

Hungry for a good meal, Salesman Sam sought directions to the best restaurant in town. Upon arriving there he was thwarted by this sign:

"Gone Home for Lunch."

Sign on front window of a Laundromat:

"Ladies. Leave your clothes here and then go out and have a good time."

Promoted a dry cleaning establishment in Las Vegas:

"While you're here, why not get your clothes cleaned, too?"

Sour tourist in Texas studied the menu.

"Is this sage hen you list a local bird?"

"Yes, sir."

"Can it fly?"

"Indeed it can."

"I don't want it, then. Any-

thing that can fly, but doesn't get out of Texas, just isn't for me."

Salesman Sam

Sam forgot his umbrella when he checked out of his hotel room. Two hours later he suddenly remembered, and returned. There was a "Do Not Disturb" sign on the door of the room he had vacated.

Before knocking, Sam listened at the door for a moment, and overheard:

"Whose pretty shell-like ears are those?" (male voice).

"Mine." (female coo).

"And whose itsy bitsie cutie toes are these?"

"Mine."

This amatory inventory went on for awhile, until Sam belatedly:

"When you get around to that black umbrella in the corner, THAT is MINE."

Your Children and Everybody's

"I can wear out a pair of blue jeans in a month," boasted Susie.

"And I," topped Jimmie, "can wear out my shoes in a week."

"Aw, that's nothin'," Joey finished, "I wear out my grandparents in one night."

Substitute teacher in a kindergarten, according to *Midland Schools Magazine*, prepared lunch and arranged her pupils around a long table.

None of the children made a move toward the food.

"All right, children, time to eat," she sang out.

"Hell," bespoke a spokesman, "we ain't prayed yet."

Following a series of false fire alarms from a certain neighborhood in Scranton, a policeman quizzed a five-year-old suspect.

"I didn't do it, 'cause I can't reach the lever," the laddie honested. "But maybe next year. . . ."

"Please ask your mother to phone me when she returns. She can call me at Capitol 6-555."

At the other end of the phone a little girl breathed hard, but didn't reply for a moment. Finally:

"I have the numbers, but how do you make a capital six?"

"Mommee," called out Janet, "I'm afraid here, all alone in the dark bedroom. Something is buzzing around, too."

"Now, now, Janet," mother soothed. "You should never be afraid. Angels watch over you and protect you. They're right here in the room with you every moment."

Short pause. . . .

"Mommee! One of the angels just bit me."

SO HALSTEAD & MITCHELL ENGINEERS ASKED . . .

Halstead & Mitchell coils with Turbu-Flo fins are designed for rugged and long service life. And Turbu-Flo provides up to 15% more heat transfer capacity.

STEAM COILS are available in both standard and non-freeze types. WATER COILS are for use with chilled or hot water. DIRECT EXPANSION COILS are equipped with a pressure type distributor and circuted for minimum refrigerant pressure drop . . . will accommodate any make expansion valve, refrigerants 12 or 22. All coils are regularly available in from 1 to 8 rows deep, in finned heights of 12 to 36 inches, and in lengths up to 10 feet. Manifolding can be arranged for left, right or opposite-hand connections. Other sizes or special coil types can be provided to meet your specifications.

EXCLUSIVE, EFFICIENT TURBU-FLO

All coils feature the exclusive Turbu-Flo fins. Streamline design creates better air wash, lowering air film resistance and improving heat transfer; yet friction is at a minimum.

Turbu-Flo fins are made of aluminum (available in copper), mechanically bonded to seamless copper tubing.

Casings are of heavy gauge steel fully protected against corrosion or of heavy gauge aluminum. Surrounding flanges simplify ductwork installation.

Write for more specific information, delivery and prices. Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pa.



From summer camp, a Junior Miss wrote her mother:

"Don't worry any more about me growing up and quit being a tomboy. Up here all we girls think about is boys and pretty clothes."

"P. S.: Please send me a water pistol."

Truth In Laughter

Why are Southerners comparatively slow-moving and deliberate?

"My great-grandfather," answers a friend from Chattanooga, "explained it this way: 'It just doesn't pay to be in a hurry. You always pass up much more than you catch up with.'"

"Is this dog's pedigree good?"

"Friend, it's so good that he wouldn't speak to either of us if he could talk."

Last Gasps

Remember, when you tell people your troubles, half of them aren't interested, and the other half are glad to learn that you're finally getting what is coming to you.—*Old Philosopher*.

Warning! Following are the names of seven Mischievous Misses who are responsible for most of our troubles: Miss Information, Miss Quotation, Miss Representation, Miss Interpretation, Miss Construction, Miss Conception, Miss Understanding. Don't listen to them! Beware!—*Forbes*.

STYROFOAM * Pipe Covering by Glo-Brite



For Low Temperature Lines & Original Equipment Manufacturers.

Pipe diameters from 3/8" iron pipe and copper tubing, to all large diameters and wall thicknesses, elbows and joints.

Light, standard and heavy duty for chiller unit cold storage work and heavy industrial installations.

GLO-BRITE PRODUCTS, INC.
6415 N. California Ave.
Chicago 45, Ill.

*Dow expanded polystyrene.

Supermarket Air Conditioning

Mounts 3 Condensing Units on Roof, Blends Recessed Low-Side Units Into Interior Wall

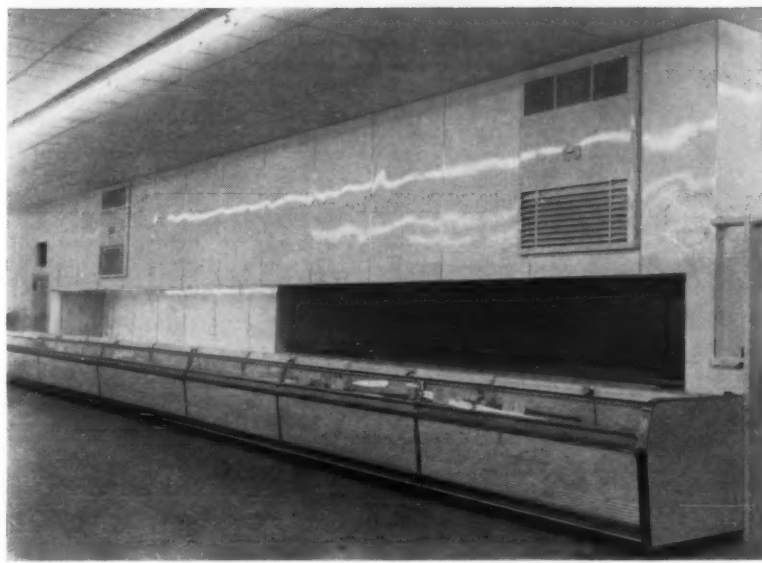
NORWICH, N. Y. — Victory Chain, Inc. recently air conditioned its supermarket here, as well as those in Homer and Rome, N. Y. An unusual aspect of the Norwich installation, as well as those in Rome and Homer, was the refinishing and placing of the low-side units.

While the three 8-ton air-cooled condensing units were mounted on the roof of the store, the three 8-ton low-side units were recessed in the sales area wall, above the frozen food cases.

But before the low-side units were installed, they were taken to an auto body shop where the factory finish of the packaged units was ground down and repainted porcelain white to harmonize with the interior of the store.

The ACCU condensing units were designed and built by Typhoon Air Conditioning Co., Div. of Hupp Corp. John Graham, Typhoon district manager, Erie, Pa., designed and supervised the three installations.

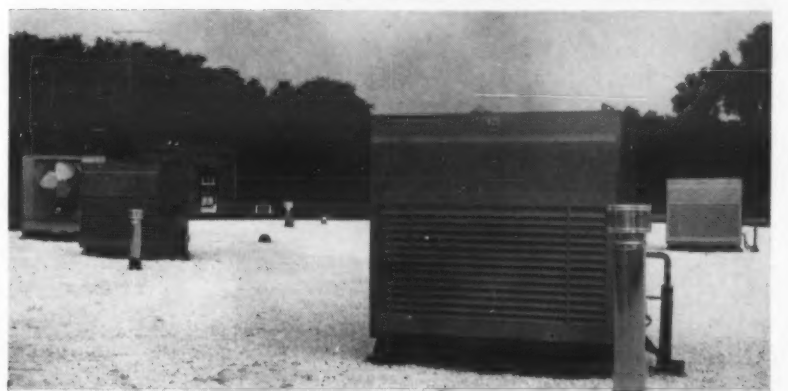
According to Charles Smith, president of Victory Chain, the equipment for the installation was chosen for two reasons: 1) the "Zone Control" concept,



INTERIOR of supermarket showing low side units painted to match store interior and frozen food cases below.

independently of the others, according to the heat load in the store; 2) since there isn't any water required for operation, there is no need for pre-winter shutdown or summer start up.

"We still have warm, Indian Summer weather as late as November," Smith said. "And if we used a water-cooled central system we would have to shut down the water tower long before then. We still need air con-



ROOFTOP of Victory Chain Inc., Norwich, N. Y. supermarket seen at near and far right and left, Typhoon 8-ton air-cooled condensing units.

ditioning on some days around Thanksgiving."

The Norwich installation convinced the Victory management that this sort of equipment was needed in their Rome and Homer stores.

At Rome, two 8-ton air-cooled condensing units were mounted on the roof at the rear of the store with two low-side units,

which in this installation were painted porcelain white at the Typhoon factory, recessed at the rear of the sales area. On the roof at the front of the store, two 5-ton ACCU units were hung each side of the store adjacent to the check-out counters.

The Homer installation is similar to the Norwich and Rome projects.

**They'll want to finance it
so call in COMMERCIAL CREDIT**



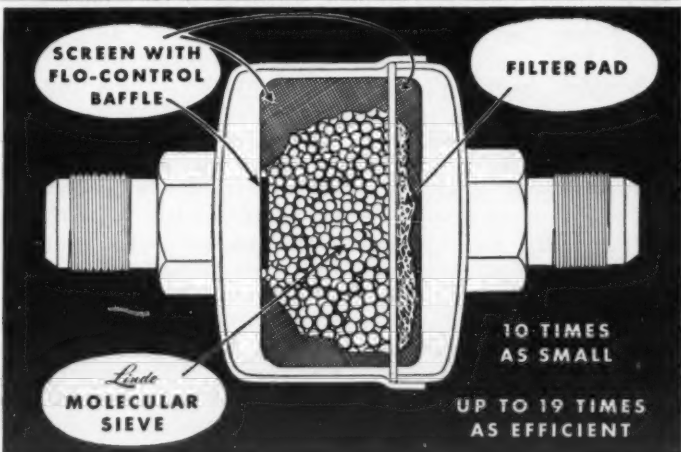
MAKE YOUR PROPOSALS COMPLETE
... most of your prospects need their cash and usual lines of credit for current operations ... make it easier for the prospect to sign on the dotted line by including financing arrangements. COMMERCIAL CREDIT's Refrigeration Plan is backed by many years' experience, handling financing for thousands of commercial refrigeration and air conditioning installations. Let us show you how COMMERCIAL CREDIT's method functions smoothly ... saves you time and trouble. Over 300 offices assure fast service. Call our office in your city or write COMMERCIAL CREDIT CORPORATION, Commercial Credit Building, Baltimore 2, Maryland.



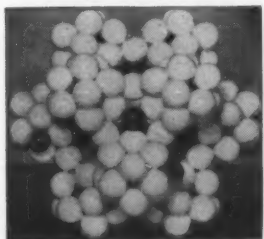
COMMERCIAL CREDIT CORPORATION • A service offered through subsidiaries of Commercial Credit Company, Baltimore ... Capital and Surplus over \$200,000,000 ... offices in principal cities of the United States and Canada.



**Molecular Sieve
FILTER-DRIERS**



NEW in Principle
in Drying Capacity
in Space Saving
in Low Costs



The term "LINDE" is a registered trade mark of the Union Carbide Corporation.

Developed in cooperation with Linde Company, a division of Union Carbide Corporation, TMC Molecular Sieve Filter-Driers now make it possible for only four sizes to handle up to 15 ton systems. They save space ... 15 ton size fits in the palm of your hand!

No sag-off in drying efficiency at high operating temperatures. Ordering, inventory, space and investment are vastly reduced.

Phone or write for complete data and low prices.

**Made Possible by the
Linde Molecular Sieve**



**TUBE MANIFOLD
CORPORATION**

435 BRYANT STREET LUDLOW 7900 N. TONAWANDA, N. Y.

Another product of the world's largest manufacturer of liquid receivers

For more information about products advertised on this page use Information Center, page 16.

They'll
Do It
Every
Time
by
Jimmy
Hatlo



Hoosiers Again Strike A Blow for Freedom

OFTEN it has been said that Indiana comes close to representing the true *American Spirit*. Certainly it is among the most homogeneous, and most admirable in conduct of its civic affairs, of all the States in our Union.

Among other salutary habits, it spurns Federal handouts, and pays its own way to the best of its ability. Its citizens are mindful of the fact that our War for Independence was instigated by oppressive taxation.

In a remarkable Indiana House Concurrent Resolution No. 16, the 1957 Indiana legislature has composed and proclaimed an American document which deserves immortality—alongside such classics as issued from the pens of Patrick Henry, Thomas Jefferson, Alexander Hamilton, and James Madison long ago.

This resolution deserves framing in every office. It deserves reading in every high school. And your congressmen should read it, too, dozens of times. Send it to them!

Herewith:

1957 Indiana General Assembly
HOUSE CONCURRENT RESOLUTION
NO. 16

Authors:

Rep. David W. Dennis (R), Richmond
Rep. Walter H. Maehling (D), Terre Haute.

Passed House by Voice Vote, 3/6

Passed Senate by Voice Vote, 3/6 (Night Session).

BE IT RESOLVED BY THE HOUSE OF REPRESENTATIVES OF THE GENERAL ASSEMBLY OF THE STATE OF INDIANA,

THE SENATE CONCURRING:

A CONCURRENT RESOLUTION from the General Assembly of the State of Indiana to the Congress of the United States.

WE, THE ELECTED REPRESENTATIVES of the people of Indiana have carefully observed the effect of high federal tax rates on individuals and business and we are deeply concerned over what we see.

Highly progressive income tax rates, the invention of Socialist Karl Marx, have made the accumulation of personal venture capital virtually impossible and have destroyed the incentive for individuals to invest in new and untried business ventures.

High federal tax is the basic cause of many mergers which are slowly but surely

absorbing the middle sized company with its independent management, and concentrating business and economic power in the hands of large corporations.

Small corporations are finding it impossible to retain sufficient profits after tax collection, to permit reasonable and healthy growth.

We see the Federal Government dominating almost every field of taxation. It has become the tax octopus, taking more and more away from our citizens, and leaving state and local government on a starvation diet. Federal tax policies are encouraging the forced acceptance of "federal aid" and the centralization of governmental power in Washington.

The highly progressive income tax with rates ranging up to 91 per cent is in fact, confiscation of income and through high estate and gift taxes we have confiscation of property as well. Because this socialistic philosophy is repugnant to Americans, many taxpayers feel they have moral justification for evasion; thus, dishonesty is encouraged and the equitable collection of taxes is impossible.

To make available venture capital, to restore the incentive to engage in new job creating enterprises, to give small business the opportunity to prosper and grow, to stop the trend toward concentration of industry, to restore the personal right to dispose of property by gift or at death without penalty, to enable the states to assume the responsibilities which are rightfully theirs,

WE RESPECTFULLY RECOMMEND TO OUR CONGRESS FOR IMMEDIATE CONSIDERATION:

1. Substantial reduction of the combined normal and surtax rates on personal income.
2. Tax relief for small corporations to permit normal and healthy growth.
3. Drastic reduction of federal estate and gift taxes.
4. Extension of excise taxes at a uniform rate to remove inequities between industries and to meet budget requirements.

We Hoosiers believe these fundamental tax reforms are essential to the preservation of economic freedom and the vital incentives which have made our nation great.

Trade Mark
reg. U.S. Pat.
Office:
Est. 1926

AIR CONDITIONING
& REFRIGERATION **NEWS**

Copyright
1957.
Business News
Publishing Co.

F. M. COCKRELL, Founder

'The Conscience of the Industry'

Published Every Monday by BUSINESS NEWS PUBLISHING CO., 450 W. Fort St., Detroit 26, Mich. Telephone Woodward 2-0924. Subscription Rates: U. S. and Possessions and Canada: \$6.00 per year; 2 years, \$9.00; 3 years, \$12.00. All other countries: \$10 per year. Single copy price, 40 cents. Ten or more copies, 30 cents; 50 or more copies, 20 cents each. Send remittance with order.

EDITOR & PUBLISHER,
George F. Taubeneck
EDITORIAL DIRECTOR,
Phil B. Redeker
ASSOCIATE EDITOR,
C. Dale Mericle
ASSISTANT EDITORS:
John Sweet
Hugh Mahar
George Hanning
Robert Lacey

RESEARCH MGR., John MacLean

GEN. MGR., Warren Jones
GEN. PROD. MGR., Walter Schuler
ADV. PROD. MGR., A. M. Barrow
CIRCULATION MGR., Herbert Spencer
SUBSCRIPTION MGR., Rosalie Ashley
READER'S SERVICE MGR.,
Vincine Mogyorodi

PRESIDENT, Edward L. Henderson
ADV. MGR., Robert M. Price
WESTERN ADV. MGR.,
Allen Schildhammer
ASST. ADV. MGR., Joe Sullivan
ADVERTISING REPRESENTATIVES:
Rex Smith
Frank Taylor
ADVERTISING OFFICES:
New York, 521 Fifth Ave.
Murray Hill 2-1928-9
Robert M. Price
Frank Taylor
Chicago, 134 S. LaSalle St.
Franklin 2-8093
Allen Schildhammer
Rex Smith
Detroit, 450 W. Fort St.
Woodward 2-0924
Joe Sullivan
Los Angeles, 4710 Crenshaw Blvd.
AXminster 2-9501
Justin Hannon

Member, Audit Bureau of Circulations. Member, Associated Business Publications.

VOLUME 81, No. 17, SERIAL No. 1,483, AUGUST 26, 1957

"The mass of people must be barbarous where there is no printing, and consequently knowledge is not generally diffused. Knowledge is diffused among our people by the newspapers."—Sam Johnson, *Boswell's Life*, March 31, 1772.

LAMENTS WASTE OF RETIRED ENGINEERS' SKILLS

Consulting Engineer
Dayton, Ohio

Editor:

In catching up on my reading on AC&RN, I came across your editorial in the April 8 issue. I enjoyed very much the remarks about men over fifty.

Some years ago in one of the research committee sessions of one of the technical societies, several of the University men having society sponsored research projects were bewailing the fact that they were unable to obtain graduate students to carry these projects to conclusion and wondered what could be done to solve their manpower problems. At the time, I suggested that they should give consideration to retired engineers, who while they might not want to work full time might be hired on a part time basis.

Knowing that my retirement was inevitable for some years prior thereto, I had planned to enter the consulting field after retirement if my health would permit and have followed through on that plan.

Some of the experiences which I have had since retirement are quite interesting and would be amusing were it not for the reputed shortage of skilled engineering help. Some of these are as follows: 1. A serious offer from a firm of management consultants for two dollars an hour. 2. To see what was going on more than being interested in the employment, I have contacted a number of personnel representatives visiting the "home town" trying to recruit engineering personnel. a. Usually, as soon as they find out you are retired the interview terminates forthwith. b. Generally, they take one look at you when you appear for the interview, appraise your age, and the interview terminates forthwith. c. I seriously question whether very many of these youngsters would know the difference between engineering and a hod-carrier.

It seems a shame that the knowledge, skill, and experience latent in many retired engineers is not drawn upon.

(Name withheld on request.)

Handy Way to Subscribe

To See the Industry in Action EVERY WEEK

Keep up-to-date on what's going on in your industry. You'll see action weekly in AIE CONDITIONING & REFRIGERATION NEWS. Covers latest news and gives you top how-to-do-it reports on commercial and residential air conditioning, heating, commercial and home refrigeration: manufacturing, contracting, distributing, retailing, and servicing. Read the industry's newspaper for profit every week. Only \$6.00 per year, 52 issues (U.S. and Canada). Foreign: \$10.00 per year.

AIE CONDITIONING & REFRIGERATION NEWS
450 W. Fort St., Detroit 26, Mich.

8-26-57

Send the NEWS every week for: ☐ One Year \$6. ☐ Three Years \$12.
☐ Payment Enclosed ☐ Bill Me ☐ Bill Company

Name.....

Company.....

Street.....

City..... Zone..... State.....

IMPORTANT: Company's Type of Business.....

Men on the Move . . .

Westinghouse Electric Corp.—J. F. O'DONNELL to manager of major accounts-major appliance division. Succeeds W. B. CREECH, who is named manager of newly formed service division. O'Donnell was formerly manager of national accounts.

CARL E. CANNON to assistant to the merchandising manager of the air conditioning division. He was previously with Frigidaire.

A. J. PFEIFFER, named manager of the refrigerator-freezer engineering department, to succeed O. H. YOXIMER, who was named works manager of the appliance plant at East Springfield, Mass. Pfeiffer was with Crosley until a year ago.

The Payne Co. (Monrovia, Calif.)—OWEN McCOMAS, appointed general sales manager. McComas was formerly associated with Southern California Gas Co., Arcadia Metal Products, and Day & Night Mfg. Co. He will head up the national sales force of this west coast manufacturer of heating and air conditioning equipment.

Lebanon Steel Foundry (Lebanon, Pa.)—J. KEITH LOUDEN named vice president, director, and chief executive officer. He will become executive vice president Oct. 1, succeeding Edward G. Williams, who is retiring. Loudon was vice president and director of the York Div. of Borg-Warner Corp.

Bendix-Westinghouse Automotive Air Brake Co.—FREDERICK G. REITER was elected vice president-treasurer and FLOYD L. WHEATON vice president-marketing. DUGALD BLACK was elected a director, succeeding the late D. S. Kimball, Jr.

General Controls Co.—DICK GALLAGHER promoted from branch manager at Boston to assistant branch manager of the New York office. JOHN BOYLE succeeds Gallagher at Boston. Boyle was formerly associated with Cleveland Fuel Equipment Co.

Armstrong Furnace Co., Div. of National Union Electric Corp.—HAROLD E. GAHNZ joins Armstrong's team of district managers. Gahnz, formerly with another furnace manufacturer, will be "roving ambassador" for the firm.

Eaton Mfg. Co.—FRANK IVOR GOODRICH has been elected vice president-administrative. Goodrich succeeds F. H. MOTT, who is retiring after 38 years, but will continue as a director. Goodrich, who was Mott's staff assistant, will direct the activities of all Michigan plants.

The Bristol Co. (Waterbury, Conn.)—LYLE R. KOROSCH has been appointed sales engineer, working out of the new Portland, Ore. sales office.

The Maytag Co.—RALPH J. SINK retires as regional manager in the company's Richmond branch.

Sink has completed 20 years' service with Maytag.

Borg-Warner Corp.—TOM CONWAY appointed as director of manufacturing services. Conway had been general works manager of Lycoming Div. of Avco Corp. since 1954.

Hydraulic Div., Sundstrand Machine Tool Co. (Rockford, Ill.)—SERENO A. FERRARO and JAMES R. HOLMIN promoted to service manager positions. Ferraro is new field service manager, and Holmin is manager of headquarters service facilities. Both have long service with the firm.

Home Appliance Distributors of Arkansas (Little Rock)—ROBERT E. TURNER named manager of the Fort Smith branch; J. R. BARNETT appointed territorial manager for the firm.

W. G. Morton Co. (Albany, N. Y.)—This distributor of Mathes heating and air conditioning equipment appointed BERT F. DART to head

the heating and air conditioning division as sales manager. Dart was manager of the heating and air conditioning division of Roskin Bros., Inc., of Albany.

Waste King Corp.—HOWARD C. GIVEN promoted to senior vice president-manufacturing. Named to newly-created positions as vice presidents were A. L. HAGGARD, national sales manager; DR. HANS JORDAN, chief engineer; BOYD T. MARSHALL, manager of the engineering and development division; FRED B. NORBERG, controller; and JAMES E. CARR, director of industrial relations.

R. S. Noonan, Inc. (York, Pa.)—MARSHALL G. MUNCE appointed sales manager. Munce was formerly vice president of York Div., Borg-Warner Corp. He will concentrate on industrial construction, in which the York contracting firm specializes. He will also be engaged in operations of R. S. Noonan's division for thawing frost-heaved floors in frozen food warehouses.

Aluminum Finishing Corp. (Indianapolis)—BERNARD C. JOHNSON named vice president and gen-

eral manager and elected to the board of directors. Johnson will direct a new program of modernization and quality control for this aluminum anodizing firm. He was formerly vice president of Hoosier Cardinal Corp., Evansville, Ind.

Westinghouse Appliance Sales—

RICHARD B. COOK has been named sales manager of major appliances in the new northern California district with headquarters in San Francisco. For the past two years Cook was consumer products branch manager in Fresno.

Closeout at Fraction of Original Cost!

RECTIFIER TUBES

Replacement for Precipitron, Trilon, and other electronic filters. No. 1, tested and guaranteed, min. 1 doz.

RKR-72 . . . List Price \$10.50 **\$2.50** EA.

LOTS OF 100 . . . \$1.95 EA.

3B24 . . . List Price \$11.75 **\$3.50** EA.

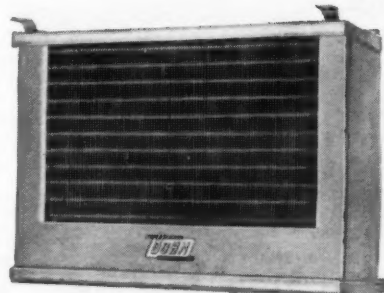
Double element for double service. LOTS OF 100 . . . \$2.95 EA.



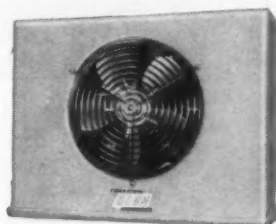
M. BERGER & CO.

1816 Locust St., Pittsburgh 19, Pa., GRant 1-5541

BOHN Presents



Model LC Unit Cooler for large walk-ins and low temperature storage. Rating from 600 through 1800 BTU per hr. at 1° T.D.



Model LR Reach-in Cooler for small applications. Ratings from 100 through 190 BTU per hr. at 1° T.D.

the NEW ANGLE in Low Temperature Units with Vapor Hermetic Defrost

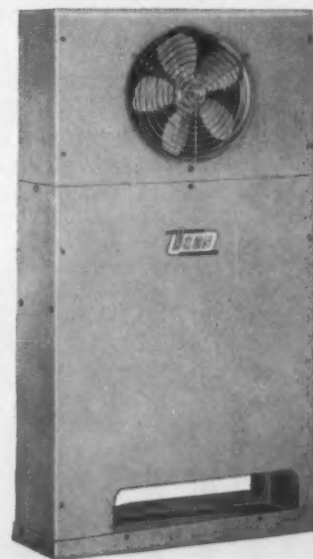
Extensive BOHN engineering research has led the way to a new idea . . . a defrost system that's unique in simplicity. A hermetically sealed vapor electric heating system is built within the coil. Heated vapor circulates by gravity, eliminating expensive flow control devices.

This system removes uncertainties and variables. It is not necessary to penetrate the frost barrier. Extra piping and complicated installation problems are avoided.

Features include an adjustable defrost time clock, heating pad in drain pan and temperature terminated switch. Easily-accessible, cartridge type heater elements in hermetic system eliminate leak tests.

Write today for full details. Reserve your free copy of BOHN CATALOG BU-1.

Model LM Mullion Lo-Temp for upright freezers. Ratings of 140 and 190 BTU per hr. at 1° T.D.



- Reasonable Cost
- Simple Design
- Fool-proof



SUPER-FLO

UL MASSIVE DEPTH FILTERING! FILTER-DRIERS

Super-Flo's massive fiberglass depth filter and a molded drying element increase foreign matter, moisture and acid removal. Write for low prices.

AVAILABLE TO THE TRADE THROUGH WHOLESALEERS EVERYWHERE

REMCO INC.
ZELIENOPLE, PA.

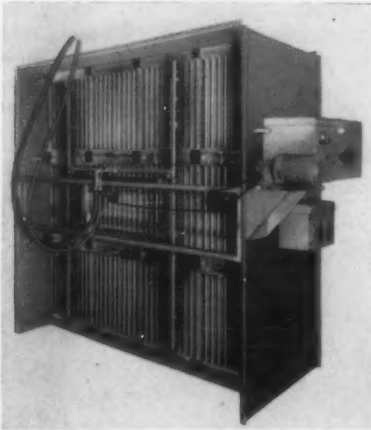
BETZ DIVISION
BOHN
DANVILLE, ILLINOIS

Manufacturers of Commercial Refrigeration, Industrial Air Conditioning and Special Heat Transfer Surface

BOHN ALUMINUM & BRASS CORPORATION • BETZ DIVISION • DANVILLE, ILLINOIS

What's New

Adds Electronic Air Cleaners to Line



—KEY NO. G-840—

PITTSBURGH — Electro-Air Cleaner Co., Inc. recently introduced a new line of "Hi-C" electronic air cleaners to supplement its standard equipment.

The newly-developed Hi-C units are designed for installation in the forced air ventilating systems

of commercial and industrial buildings and are engineered to have greater cleaning efficiency at higher velocities and to take up less space, the company claims.

Hi-C ionizing-collecting cell has face velocities up to 600 f.p.m., savings in face area of 40%, and maximum dirt loading capacity.

The new ionizer design provides a maximum area of electron discharge by using an "inside curve" on the face of the negative electrodes. "High Capacity" units are available with both horizontal or vertical air flow.



Highboy Furnace Has 150,000 B.t.u. Input

—KEY NO. G-842—

HARRISON, N. J. — Worthington Corp.'s residential highboy furnace, manufactured at the Milwaukee plant, is now available in a 150,000-B.t.u. input size, in addition to 80,000 and 100,000 sizes, the firm announced.

Besides the highboy furnace, the Milwaukee manufactured line includes low-boy, counterflow, and horizontal models—all finished in an eye-catching two-tone beige and cream, it was noted.

All high-boy and low-boy models in the line are available with high static blowers especially designed for installation where air conditioning is going to be tied in with the heating unit.

Announces 3-Way Solenoid Valves

—KEY NO. G-843—

ST. LOUIS — A new line of three-way solenoid valves, known as series "500," has been announced by Jackes-Evans Mfg. Co.



Designed for fan-coil unit control, the manufacturer states these valves provide low cost automatic temperature control for year-round air conditioning of multiple rooms or areas to meet the need for three-way control of forced circulation, chilled water air conditioning systems.

The three-way design is said to enable the thermostat to control the flow of water either through the heat exchanger of the fan-coil or to by-pass the coil.

Tear-Resistant Rubber Doors Developed

—KEY NO. G-844—

HAGERSTOWN, Md. — A new line of all rubber, tear-resistant batten doors has been developed by Jamison Cold Storage Door Co. It allows safe passage of mobile handling equipment with wider pallet loads than ever before possible, the company claims.

The new doors, known as "Flexidor," are built to withstand the constant battering of trucks and pallets moving at high speed in and out of refrigerated storage areas. They have been especially designed to permit use of wide pallets in smaller doorways, and to take repeated abuse from off-center impact and corner cutting of power-operated equipment.

These are flexible, self-closing doors engineered not only for last-



ing durability, but also to prevent loss of cold air from refrigerated storage rooms during operations.

Your Customers' Best Buy...
(and yours, too!)

IDEAL
Speed-Freeze
PRODUCTS

BEVERAGE COOLERS
unexcelled storage capacity with Ice Cube Makers

OUTSTANDING SECTIONAL METAL WALK-IN COOLERS

IDEAL

COOLER CORPORATION

2830 MAGAZINE ST.,
ST. LOUIS 6, MO.

Steam Tables Hold Serving Temperature

—KEY NO. G-841—

BROOKLYN — Steam tables constructed to keep foods always at proper serving temperature and at their tastiest have been produced by the Dunhill Food Equipment Corp.

Now available with dry, moist heat, Dunhill steam tables are also produced with water bath, dry gas, dry electric, and moist heat. Temperature in all food compartments, except with water bath, is individually controlled.

Pans and inserts are one-piece, deep-drawn stainless steel for easy cleaning. Entire body is constructed of 18-gauge cold rolled steel precision welded for durable, life-time service. Body is reinforced for maximum rigidity with 16-gauge steel braces, the company said.

Made in 3-ft. to 6-ft. 6-in. lengths, Dunhill steam tables have 20-gauge stainless steel front and top. Doors are provided with roller bearings for quick opening and closure.

Tables are fitted with 8-in. wide laminated maple cutting board and single telescopic hood.

"King Zeero's" Sweet Water ICE BANKS offer ICE - CONCENTRATED Refrigeration for Air Conditioning

CONTINUOUS RIFLED GALVANIZED COILS
EXPANSION VALVE CONTROLLED

**32° - 34° COLD
ICE WATER**

DESIGNED FOR USE WITH: FREON
METHYL CHLORIDE — AMMONIA

The "King Zeero" ICE BANK is designed for air cooling in Churches, Mortuaries, Theatres, Offices, Stores, Auditoriums, Factories, Clubs, Restaurants, etc. Ice Banks may be added to existing systems for increased capacity. The "King Zeero" ICE BANK is designed to deliver 32° to 34° F. sweet water for recirculation through secondary equipment. Design temperatures may be obtained with mixing valves.



MODEL A-7
"KING ZEERO"
ICE BANK

CONSIDER THESE ADVANTAGES..

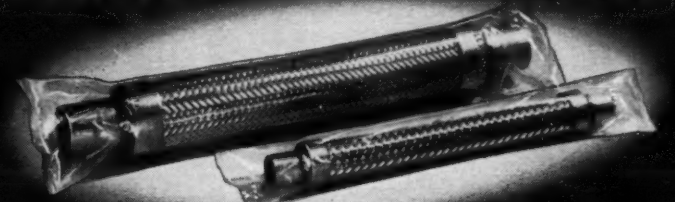
- DIRECTED COURSE OF WATER travels with "built-in" agitation.
- NO MECHANICAL AGITATION REQUIRED.
- LARGE WATER COMPARTMENTS spaced on 11" and 12" centers.
- 33% EXTRA ICE CAPACITY safely attained with up to 300 G.P.M. water flow.
- ICE IS "BURNED OFF" PLATE COILS progressively, exposing prime and secondary surface for maximum flash cooling capacity.
- ICE THICKNESS automatically controlled - eliminates "freeze ups."
- 94 SIZES to fit space requirements. Other designs for special applications.

CAPACITIES - 500 lbs. to 30,000 lbs. (72,000 B.T.U.'s to 4,320,000 B.T.U.'s) in a single unit. Multiple units may be installed.

THE KING ZEERO COMPANY
4300-14 W. Montrose Ave. - Chicago 41, Ill.
Manufacturers of Ice Builders - Ice Builder Cabinets - Ice Banks



FLEXON VIBRA-SORBERS®



CLEAN... INSIDE AND OUT!

NOW AVAILABLE FROM FLEXONICS

Flex-O-Tube synthetic Freon-resistant hose for refrigeration and air conditioning service. Also, flexible metal connectors for circulating pumps. Write for information.

Here's positive protection against the introduction of dirt and foreign matter into refrigeration and air conditioning systems. Flexon Vibra-Sorbers, come to you clean in sealed polyethylene bags.

Prior to this operation, Vibra-Sorbers are bathed in solvents, pickled, multiple washed and dried in infra-red dryers. For trouble-free installations use Flexon Vibra-Sorbers, the preferred way to isolate vibration in compressor piping. U.L. listed in sizes 3/16" through 1 1/2" for both high and low side service. Standard sizes to 8" available. Write for Bulletin 139, today.



Flexonics Corporation
1415 S. Third Avenue
Maywood, Illinois

Manufacturers of flexible metal hose and conduit, expansion joints, metallic bellows and assemblies of these components.
In Canada: Flexonics Corporation of Canada, Ltd., Brampton, Ontario

Information Center

For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

Products Adversised
(list name, page, and issue date)

.....
.....
.....
.....

What's New or Current Literature Available

Key No.	Key No.
Key No.	Key No.
Key No.	Key No.
Key No.	Key No.
Key No.	Key No.

Name Title

(Please Print)

Company

Street

City Zone State

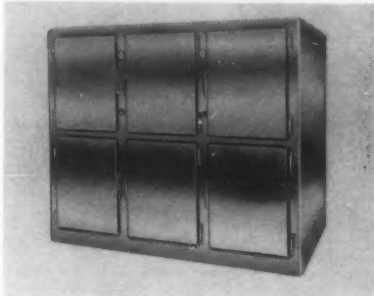
Type of Business

MAIL THIS FORM TO
AIR CONDITIONING & REFRIGERATION NEWS
Readers Service Dept.

450 W. FORT ST.

DETROIT 26, MICHIGAN

Adds 'Hot' Cabinet to 'Hot 'N Cold' Food Banks



KEY NO. G-845

HUDSON, N. Y.—TherMcCold Corp. has added to its present line of "Hot 'N Cold" food banks—an all "hot" cabinet.

This thermostatically controlled unit will be manufactured for establishments that now have nor-

mal or low temperature reach-ins and find the need for an all hot cabinet. The all hot cabinet will be made to line up with present equipment in either "Pass-Thru" or wall-type models.

Glass doors available in top or all sections of cabinet for easy view of interior contents. They are equipped with exterior thermometers to indicate that the contents are being maintained at correct temperatures, it was said.

The all hot cabinet is used for wheel-in application for large institutions. It can receive tray carts loaded with trays of food filled at the work area which can be wheeled into the cabinet and then wheeled out during peak rush hours, or as needed.



'Pass-Thru' Refrigerator Line Developed

KEY NO. G-848

HUDSON, N. Y.—Foster Refrigerator Corp. recently announced a complete line of "Pass-Thru" refrigerators.

Pass-Thru HR75-10-U can be placed between kitchen and food serving lines. This type of refrigerator is designed to give efficient, speedy service and eliminates costly steps, the firm said.

Foster offers nine self-contained models from 15 cu. ft. to 95 cu. ft. and six remote models from 21 cu. ft. to 100 cu. ft.

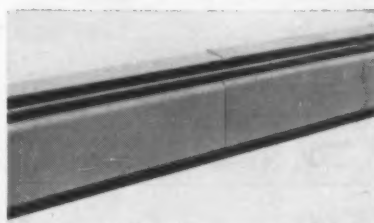
Baseboard Radiator Can Be Snapped Into Place

KEY NO. G-849

BALTIMORE—The new "Beautibase," model H-20, is now ready for national distribution by Continental Mfg. Co.

According to company officials, the line incorporates the new economy H-20 element, while maintaining both a high I-B-R rating and the special enclosure features.

Rectangular aluminum fins allow the 3/4 in. copper tube to expand and contract noiselessly. Special



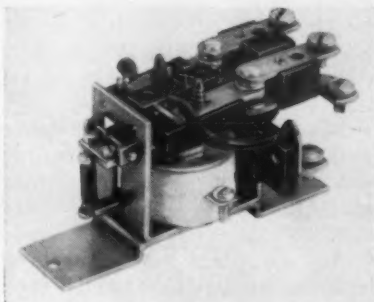
installation features include: brackets that can be located wherever desired by snapping into place.

General Purpose Relay Has Removable Base

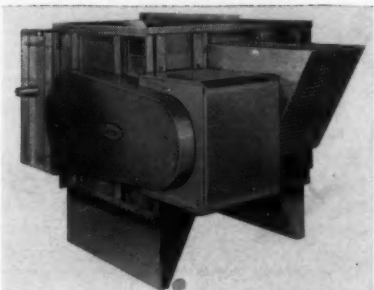
KEY NO. G-8410

LONG BRANCH, N. J.—A new general purpose relay designed by Wheelock Signals, Inc. incorporating such design features as interchangeable coils and a removable multi-position base is now being offered to the equipment manufacturer and industrial user.

Contacts rated at 20 amps, 115 v. 60 cycle a.c. or 24 v. d.c., are single-and-double pole, single-and-double throw.



Offers 2 Condensers To Bar Water Supply Problem



KEY NO. G-846

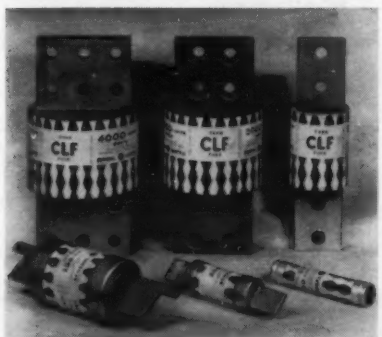
SYRACUSE, N. Y.—Two new condensers to beat water supply problems in larger air conditioning and refrigeration systems have been developed by Carrier Corp.

New models use evaporation of water or passage of air over condensing coils to remove heat from refrigerant. They can be applied to eliminate a cooling tower and costly condenser water piping in many "built-up" central systems and are designed to offer more compact installation and lower operating costs, it was stated.

One is an evaporative condenser, available in 13 sizes to cover a range of from 5 to 250 tons capacity. It employs a new method of wetting coils with vaporized

water drawing heat from the refrigerating system.

The other is an air-cooled condenser produced in seven sizes from 2 to 38 tons capacity.



Current Limiting Fuses Introduced

KEY NO. G-847

PHILADELPHIA—A complete new line of current limiting fuses with a tested interrupting capacity of 200,000 amperes symmetrical has been announced by the General Electric Co.'s Low Voltage Switchgear Dept.

Designed to interrupt short-circuit currents in less than a quarter of a cycle, these type CLF fuses are for protection of branch feeders, lighting circuits, motor starters, control power circuits, and similar applications.

U.L. & A.S.M.E. WATER-COOLED CONDENSERS and **LIQUID RECEIVERS** for **EVERY REQUIREMENT**

STANDARD REFRIGERATION CO.

332 S. Mayne, Dept. C
Chicago 12, Ill.

Write for our NEW Catalog

Strike

Holiday Gold

with SCOTSMAN

ICE MACHINES!

BARS AND TAVERNS

MOTELS

FOOD PROCESSORS

RESTAURANTS

CLUBS AND LODGES

AMERICA'S MOST SPECIFIED LINE OF ICE MACHINES!

Join the Holiday GOLD RUSH!

EARN EXTRA PROFITS this fall with Scotsman Ice Machines!

Hundreds of firms need Scotsman machines during the busy year-end season. Motels and hotels . . . restaurants . . . clubs and lodges . . . bars and taverns . . . they all have increased ice needs during every holiday.

STAKE YOUR CLAIM in this rich gold-mine of ice machine prospects. Get in on Scotsman's big 'Holiday Gold' promotion. It provides everything to dig out golden sales with Scotsman Ice Machines!

Join the Holiday Gold Rush with Scotsman, the leading ice machine line. Mail coupon for complete details on the Holiday Gold program!

SCOTSMAN

Super Cubers

Super Makers



Yes—

Send us complete information on the Scotsman Holiday Gold sales campaign.

Send information on a Scotsman dealer franchise.

NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

Mail to: American Gas Machine Co., Division of Queen Stove Works, Inc.
208 Front Street, Albert Lea, Minnesota

What's Going On in Commercial Refrigeration

News of Markets, Products, Methods

Brains 'Never Make a Mistake'

Automatic Candy Plant Virtually 'Eliminates' Spoilage In Processing

SAN JOSE, Calif.—An automatic candy plant, believed to be the first of its kind, is reported as virtually eliminating candy spoilage during processing.

Electronic units that "never make a mistake" are controlling production of chocolate drops, marshmallows, and other candies made in the Tuxedo Candy Co. plant here, according to Minneapolis-Honeywell's food

industry engineers who designed the system.

They said the ultra-modern plant, a subsidiary of Safeway Stores, comes closest yet to fictionized concepts of the "automatic factory."

Automatic detecting, measuring, and controlling devices honeycomb the modern candy producing plant. They electronically monitor and control everything from the flow of chocolate

and other ingredients into the cooking kettles, to the regulation of temperatures and humidity in the packaging and storage areas.

M-H's Industrial Div. engineers in Philadelphia said they expect other confectioners to get a sweet tooth for similar automation-style systems.

Frick Branch Moves

WAYNESBORO, Pa. — Frick Co.'s St. Louis branch office will move Sept. 1 to Room 500, 1221 Locust St., St. Louis 3, the company has announced.

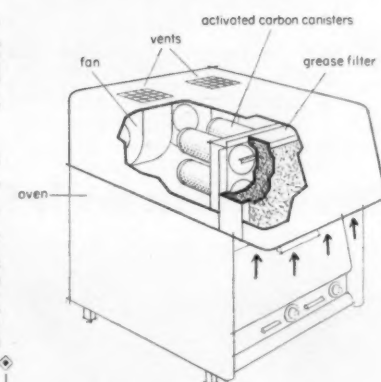
John H. Carter is branch manager. C. L. Buckingham, Frick distributor sales supervisor, also headquarters there.

Aroma Becomes Stale In Confined Area

Produce Almost Odorless Pizza Oven By Activated Carbon Air Filtration

DANBURY, Conn. — Appetizing as the aroma of baking pizzas may be, when it's allowed to accumulate in a confined area it is something else again.

Spice and cheese odors can build up to a point where the atmosphere becomes stale, pungent, and decidedly unappetizing. And because pizza ovens are usually in the front or center of the store or restaurant, getting rid of the odors is a problem as



PIZZA oven, said to be virtually odorless, was produced by the joint efforts of Connor Engineering Corp. and Bakers Pride Oven Co.

there is no way of running an exhaust duct to the outdoors.

Connor Engineering Corp. and Bakers Pride Oven Co. joined forces to overcome the obstacle, producing a virtually odorless oven by adding activated carbon air filtration.

A stainless steel hood fits snugly on top of the oven, with the air intake over the door. The suction effect of 200 c.f.m. flowing across the front draws off the natural seepage around the door seal and also picks up the initial blast of accumulated odor when the door is opened.

The oven air is first passed through a grease filter to trap grease droplets and then through eight canisters containing 12 lbs. of specially prepared "Dorex" activated carbon.

So effective is the filter arrangement that not only are the odors prevented from permeating the store but they are practically unnoticeable close to the oven, Connor claims.

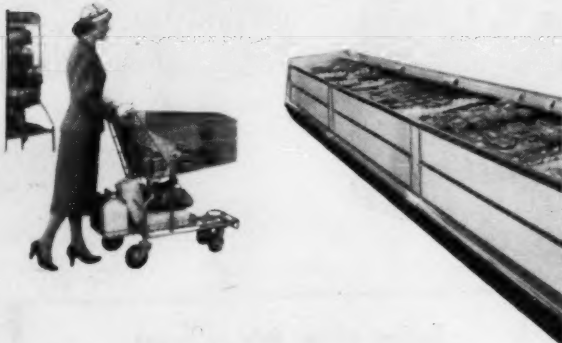
Market Offers 252 Lin. Ft. Of Refrigerated Cases

ROCHESTER, Mich.—A new supermarket, covering 18,750 sq. ft. of floor space, was recently opened here by Wrigleys Supermarkets.

The store, first to open in the new North Hill Shopping Center, has 100 lineal ft. of meat cases with 24 ft. for frozen meats. Other refrigeration installations include 96 ft. for frozen foods and 56 ft. of triple-deck dairy shelving.

A bakery in the store features an oven that bakes frozen pies while customers shop.

CUSTOMER



SEES MORE—SOONER



AND BETTER!

Tyler NO-GLASS, OPEN-FRONT Sales-Cases give approaching shopper full, direct, uninterrupted view of merchandise display... make it easy to select and reach... give Tyler-wise store operators those extra impulse sales. Remember, Tyler gives you more, in many different ways!



DO IT YOURSELF! Make this test with any competitive case. See what you see from eye-level of average shopper.

SELL MORE—SAVE MORE with Tyler Advanced Design features. Watch Tyler for important improvements from which you benefit.

TYLER REFRIGERATION CORPORATION, Niles, Mich.
Canada: Tyler Refrigerators, 732 Spadina Ave., Toronto, Ont.
(Export: Tyler Refrigeration International, C. A.
Edificio Aconcagua—Apto. 33, Ave. Fuerzas Armadas, Caracas, Venezuela)

30th YEAR
TYLER
PIONEER of important improvements

AIRO stands for

- Speedy, dependable, world-wide service.
- Air Conditioning and Refrigeration parts, equipment, supplies.

Write for Wholesale Catalog No. 57

AIRO SUPPLY CO.
2732 N. Ashland Ave., Chicago 14, Ill.



NEW line of low and normal temperature all steel sectional walk-in coolers has been introduced by Bally Case & Cooler Co.

All Steel Walk-Ins Feature Rapid Locking Device To Join Sections

BALLY, Pa.—The Bally Case & Cooler Co. has introduced a new line of low temperature and normal temperature all steel sectional walk-in coolers.

Leon Prince, the company's sales manager, pointed out that many innovations are incorporated in the new line.

He said these features include a rapid locking device to join the 5-in. thick insulated sections for easier erection and a completely hermetically sealed re-

frigeration system in many models.

Prince pointed out that the Bally walk-ins are designed in standard widths so that the user can expand them at any time. Models are available now in three standards heights, but can be supplied in special heights, it was added.

All interior fittings are made of steel. Shelves are acid-resistant white porcelain, easily cleaned, Prince explained.

SOLID ICE CUBES (no holes)

combination crushed ice optional

A.C. or D.C. machines producing daily
800 - 1200 - 1600 - 2000 - 2400 pounds

Unit can be remote or integral, enabling installation in small areas, especially with low ceilings. Use 8 to 25 pounds Freon 12.

Dealerships open. Inquiries invited.

N. SILVERMAN, INC., 488 7th Avenue, New York. LA 4-2640

GASKET PROBLEM?



call JARROW

Jarrow experienced gasket engineers have worked closely with manufacturers for many years, providing the finest in gaskets for every type of insulation application for refrigerating and air conditioning. If you have a problem that challenges solution, Jarrow development engineers will cooperate with you in producing the very product you need. There is no cost or obligation for this service. Send us your blueprints.

Jarrow Gaskets, to your exact specifications, are available in all these materials or combinations:

Jarene-B—the new, tough, flexible vinyl plastic extrusion that can't crack, check, or oxidize—grease resistant—long wearing—easily cleaned!

Rubber—in any extruded form—as a rubberized fabric—or sponge rubber, which is ideal as a combination with either plastics, rubber extrusions or fabrics.

Others include Neoprene Fabric and Waterproof Cotton Webbing.



SEND TODAY FOR JARROW CATALOG C-300, containing the latest in gasket developments, designed to save you valuable assembly time and cut your production costs. You'll want to keep this valuable guide handy constantly. Write:

JARROW PRODUCTS INC.

Almost a Third of a Century of Gasket Experience

420 NORTH LA SALLE STREET • CHICAGO 10, ILL.

Refrigerated Vendors Lure Daytime Customers at Kroger Supermarket; Chain May Install Others If Successful

ROYAL OAK, Mich.—First in the Detroit metropolitan area, Kroger's 24-hour food vending service, featuring three refrigerated vending machines in an outdoor bank of six, is proving popular in the new Northwood Shopping Center here.

Making sales not only after closing hours and on Sundays, the machines also lure daytime customers who want only one or two items, Kroger reports. Prices, including state sales tax, are the same as those inside the store.

35-40° TEMPERATURE

The refrigerated vending machines maintain a constant 35 to 40° F. temperature. They dispense milk, cream, eggs, soft drinks, cold meats, and butter.

C. Olaf Talla, vice president of Kroger's Detroit Div., said the Kroger vendors were an experiment.

"If they prove successful here, we may have others installed outside some of our other Detroit area supermarkets," he added.

The machines are lined up on one side of the building facing the parking lot. A rectangular window on the face of each machine lets the shopper see the foods offered inside. A price list to the right of the window gives the selection number and price of each item.

BUTTON CORRESPONDS TO ITEM NUMBER

To purchase any item, the customer deposits the correct change into the machine. Then he presses a button corresponding with the number of the item he has selected. The item then pops through a door below.

If he puts in the wrong amount of change, his money is returned automatically. A change-making machine, which returns dimes, nickels, and pennies for quarters stands nearby.

The vendors were made by Vari-Vend, Inc., Chicago.

Other merchandise among the 60 different items vended include bread, hot dogs, coffee, party supplies, and canned fruits and vegetables.

Koch Names Bartlett Engineering Chief

KANSAS CITY, Kan.—Koch Refrigerators, Inc. has announced the appointment of Robert Danforth Bartlett as director of engineering.



R. D. Bartlett Polytechnic Institute, did graduate work at Auburn, N. Y. Community college and at Washington university in St. Louis.

He is an associate member of American Society of Refrigerating Engineers and a registered professional engineer.

Since December, 1947, he has served as refrigeration engineer, assistant plant manager, and chief engineer for commercial refrigeration manufacturers.



THERE are three refrigerated vending machines in this lineup of six outside new Kroger supermarket in Northwood shopping center at Royal Oak, Mich. near Detroit.

For constant, dependable temperature control install *Cold-Cel* TRUCK PLATES



Engineered to Maintain Any Temperature Required Throughout The Trip!

In sizes to fit any application. May be installed in a horizontal position suspended from the ceiling, in a vertical position along the walls, or as a partition. Can carry eutectic solutions ranging from -59° to +26°.



In standard thicknesses and connections: 4-Connection 2 1/4" and 2 3/4"; 3-Connection 1 1/2"; 2-Connection 1".

DOLE REFRIGERATING COMPANY

5920 NORTH PULASKI ROAD; CHICAGO 30, ILLINOIS
103 PARK AVENUE, NEW YORK 17, N. Y.

In Canada: Dole Refrigerating Products Limited
44 Elgin Street, Brantford, Ontario

Write for engineering data. No obligation.



specify **DOLE** *Cold-Cel* TRUCK PLATES

Problems with Refrigeration Men

Market Operator Offers 'Solid' Ideas To Improve Relations

What Serviceman Can Do When He Comes to Store; How To Present Bill

SAN FRANCISCO — "Ninety per cent of any mechanical trouble in the entire store will be in the refrigeration system," Abe S. Miller of the Littleman food stores here charged at a recent educational forum sponsored by the Refrigeration Service Engineers Society.

He used the forum to sound off on some of the problems that food store operators have with refrigeration contractors and servicemen. He built up quite a case, but admitted that the refrigeration man had his side, too. He even offered some suggestions to improve relations.

Miller said he represented an independent chain of 12 stores, some small, some large. Littleman Stores has been in business

here for 20 years and has had dealings with 20 to 25 refrigeration companies in that time. Equipment is serviced regularly every month.

As the years rolled on, Miller recalled, "refrigerated display cases for frozen foods, ice cream, beverages, meat, vegetables, delicatessen, and the rest soon shoved canned goods to one side and took over.

High Upkeep

"As they took over, we found that the upkeep on these essential and beautiful display cases was eating us out of house and home.

"Cash registers which are pounded on 10 hours a day cause us no trouble. Conveyor systems

are good, check stand belts are fine. Neon signs are excellent. But refrigeration — headaches."

Here is Miller's story in his own words:

What He Expects From Refrigeration

What do I expect from refrigeration? It's very simple. I expect it to refrigerate. I expect a freezer to freeze and a cooler to cool. I expect them, after they have once been installed, to be trouble free. I expect a maintenance service to keep the whole system in good working order.

I don't think this is unreasonable. In fact it seems rather logical. Unfortunately, there is a tremendous gap between what I expect and what actually happens.

Just what are the various problems a supermarket operator has as far as the refrigeration man goes? Let's start at the beginning, in the original engineering of the system.

If that's faulty, as so often it is, then nothing but trouble can be expected for the life of the installation.

Assuming the system is engineered correctly, you now face the problem of installing it. Here again the system can be put in the right way or in a slipshod manner, dooming it to perpetual trouble.

Opening day in a supermarket is usually a mad house. It seems that whatever is possible to go wrong, does go wrong on a grand scale.

We have attempted to overcome this mad day by having what we call a "dry run." That is, we actually open the doors to customers and start selling, without advance advertising. That gives us a chance to be in actual operation for a while and work out the kinks and flaws that are inevitable when first opening.

This period of breaking in is the time you men are most needed and appreciated. In fact you should be there often enough at the beginning so that there is no emergency.

What About Guarantees?

Let's talk about guarantees. Are they real or are they given with tongue in cheek? We have often had a new mechanical item put in and told solemnly, and with a straight face that the factory guarantees this item and all its parts for one year.

So what happens? Six months later the machine breaks down. We call the serviceman. He comes to the market, repairs the item and then we get a bill like this.

This is an actual bill that I'm reading:

No charge	
1 drain plug (guar.)	
3 qts. oil	2.25
15 lbs. Freon	22.50
4 hrs. labor (6.50)	26.00
50 miles transportation (10¢)	5.00
4% sales tax	.99
	\$56.74

Every so often a frozen food case or walk-in box will break down during a weekend, or at

Description	Price	Total
model 56KR128, s/n:5440324 operating reach-in case: Replaced sight glass. Charged with refrigerant		
5# Freon-12	@1.40	7.00
Fittings		.79
1 1/4" sight glass		4.00
		11.79
4% sales tax		.47
		12.26
Labor (Laird) 6/6/57		14.00
Time In: 12:30		
Time out: 2:30		26.26

WHAT an invoice for refrigeration service should be like according to Abe S. Miller of Littleman food stores in San Francisco. He says it tells what happened, what serviceman did and to what, and why the price is what it is.

night, or sometime after your regular working hours. There may be from several hundred to several thousand dollars worth of merchandise at stake plus the smooth running of our store operation.

It's at times like this that we need you and need you right away. To phone your shop and not get an answer is very frustrating indeed.

Or to call Saturday night and get an answering service and have the cute little girl at the other end say "I'll give the message to him first thing Monday morning" is not very heartening.

'Need Serviceman Right Away!'

No, we need you within the hour. If no one is available and we are left to stand idly by and work up an ulcer while all this merchandise is ruined, you aren't doing your job and don't deserve to have whatever trade you do have.

When you are working on a case, but cannot get it back in an operating condition for a day or two, at least know where you can get enough dry ice, so that it can be used temporarily.

Nothing is so frustrating and so questionable as an invoice that is mailed to us which merely reads:

March 25
... Geary Store ... fixed case
\$45.50
Why isn't it 75.12 or 22.22?
What case are you talking about

and what did you do to it? That's hard earned cash you want and we'd like to know what it's for.

Remember that the boss who is paying the bill is usually not the fellow you saw when you made the repair. He is entitled to know what's going on in his store.

Offers His Idea Of an Invoice

At the top of this page is my idea of an invoice that tells me what happened, what you did to what, and why the price is what it is.

Monthly service for a grocer is a must. If you haven't convinced a prospect of this then you are indeed a poor salesman.

What steps do we expect you servicemen to take on your monthly visits? Let's start at the beginning.

The truck you drive up in gives the first impression. Does it look business like and prosperous? Is it a respectably late model car, clean, with your firm name printed boldly on the door, as though you were proud of your firm?

Or is your car an old jalopy, dirty, hitting on three cylinders and just shrieking that it needs attention. How can we believe you'll do a good job of servicing us, when you don't even maintain your own equipment?

How about your appearance? Are you dressed in clean coveralls, clean shaven and giving the

(Concluded on next page)

HIGHSIDE or LOWSIDE

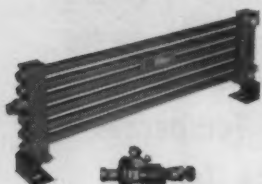
heat-x

Refrigeration and Air Conditioning Products

mean a better installation

The Heat-X line includes components for refrigeration and air conditioning systems as well as completely "packaged", ready-to-operate units ... all in a wide range of sizes and capacities to fill a broad variety of contractors' needs.

All Heat-X equipment is soundly constructed, conservatively rated and features the most advanced engineering design.



'CIC' CONDENSERS An efficient water-cooled refrigerant condenser. Entire water circuit is of non-ferrous construction with cleanable tubes. Inner-fins in refrigerant tubes insure high heat transfer ... occupy minimum space. FROM 1/2-15HP



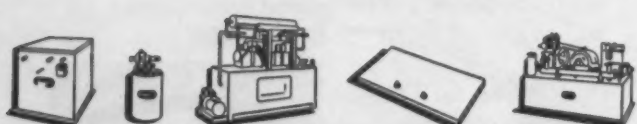
CAST COOLERS Refrigerant and liquid circuits are cast in solid block of aluminum, eliminating freeze-up problem ... offering advantages of "hold-over" effect of cooled aluminum mass. FROM 15-65 GPH (@ 70°)



HEAT INTERCHANGERS Cast aluminum heat exchangers (1/4-10HP) and heavy duty heat exchangers (7 1/2-100HP) feature patented inner-fin construction in suction line. Units feature low freon charge and no oil trapping.



'OSM' OIL SEPARATOR MUFFLERS These units solve two problems common to refrigeration systems: silencing of system noises and separation of all entrained oil. No floats to bang open or stick closed. 'OSM' units are equipped with a positive-action Velocity Pressure Mechanism, 1-75 TONS exclusive with Heat-X.



Bulletins containing complete specifications FREE on request

HEAT-X, Inc.

BREWSTER • NEW YORK

Cable "BUSHEATX", Hartford, Conn.

JOIN THE COLDIN CAVALCADE



Cash in on the Coldin Profit Parade ... the most comprehensive and diversified line of commercial refrigerators in America today. Write for catalogue.

Every Size for Every Need for Every Food Retailer

Coldin Cabinet Co., Inc.

2800 Webster Ave., N. Y. 58, N. Y. CY 5-3311

'Solid' Ideas--

(Concluded from preceding page)
appearance of somebody who knows what he's doing?

You may say none of this has any bearing on whether or not you know and can do your job, but it has a lot to do with it. We already have great doubt that you do know your job and if you walk in looking like a bum, all of our doubt has been dispersed.

'What To Do When You Enter Market'

When you enter the market:

1. Mark the time down on your time sheet.
2. Check in with the manager.
3. Ask him if he's had any problems.
4. Then go about your work.
5. When you're through, check out with him, once more writing down the time of day so that an accurate schedule is permanently made.

Tell him what you did. He hasn't seen you for a couple of hours and would like to know you weren't hiding in a corner reading a magazine.

'Make Partner of Store Manager'

The manager is your key man. Make a partner of him. Build up his confidence in you so that he'll work with you and understand what you're trying to do. Take him around to the various cases and motors and explain the principle of them.

Most important: Let him know what he can do in emergencies. So many times just a little basic knowledge will keep him from putting in an emergency call, and incidentally cuss you up and down.

Two weeks ago I sent a notice around to our store managers

and informed them that I would be speaking here today; and asked them to give me some ideas as to where they thought you servicemen could do a better job. I told them no names or stores would be mentioned and to be very frank.

The boys really roasted you fellows. I'd like to give you a cross section of some of the things they said. Remember, that some of their suggestions may not be practical, but these are still the thoughts going through their minds.

Store Managers' Suggestions

1. Each unit has a gauge and each compressor a cold control. The mechanic should explain the operation to the manager so he could adjust them when necessary and save needless emergency calls.
2. The drain holes in freezers should be larger to avoid plugging and freezing over.
3. The lower unit in a freezer should have either:
 - a. a bell warning device to warn when it's not operating correctly.
 - b. a fast defrost system.
 - c. a hot water connection to flush out ice when it freezes over.
4. The serviceman should inspect drains for clogging or freezing on his regular calls.

Meat department managers' suggestions:

1. More humidity is needed to cut down the drying of meat. Slow up the fans in boxes and counters.
2. The servicemen should learn their trade. Many do not understand the problems of their own installations from our viewpoint or theirs.
3. When trouble persists month after month in spite of their best efforts, something is wrong. Usually in the installation. We just can't seem to understand how the same thing can be worked on time after time but never get corrected. The drying up of meat in a case, for instance.
4. A serviceman checks the system and then tells me "You're going to have trouble with that motor one of these times." He keeps telling me that for three months and then sure enough, the thing finally breaks down on a busy Saturday afternoon. He saw it coming. Why

didn't he fix it? Why did he have to wait until it actually broke down?

5. Seventy-five per cent of the time something goes wrong within a few days after the serviceman has been here. It's happened too often for coincidence.

I was having dinner with a friend of mine who is in the refrigeration business and we went over this list. After I had sufficiently brow beat him and felt like a dog for doing it, I said, "Now we know how the grocer feels, let's reverse the procedure. Tell me truthfully, what does the serviceman think of the grocer?"

What Serviceman Thinks of Grocer

Well, he gave me an earful. These are among some of the things he mentioned.

1. The average grocer's housekeeping is atrocious. He allows bottles and boxes to pile up on top of motors, keeps air from circulating and never dreams of cleaning the cases and drains.

2. The manager bawls out the refrigeration mechanic for everyone else's sins: the plumber's, the electrician's, his store clerks, and even the manager's own faults. One of my men has been bawled out so much in one store that he refuses to go in there.

3. The grocer piles frozen food way above the display level and then squawks because the food becomes soft.

4. On a refrigerated case that has an air vent, he just can't wait for the serviceman to leave so he can clog it with paper or merchandise.

5. If he does have a separate machine room, it invariably ends up as a bottle room, garbage room, or storage room. Why can't he let the machine room be a machine room?

6. He'll phone dramatically for an emergency service. We dash down there and what do we find? The man who called has gone home and no one in the store has the slightest idea of what the emergency is all about.

7. He doesn't bother to check the cases until a customer comes to the check-out counter with a package of ice cream that has left a trail of chocolate clear across the store.

8. He puts off calling about a repair job until late afternoon and then screams because he's charged time and a half.

Suppose we put our heads together and see what we can do to prevent failures before they happen. Here a giant step can be taken by proper instruction of our managers. You have got to train them in the basic rudiments of keeping a system from jamming up in the first place.

What sort of a program should you set up?

Offers Program

Try arranging a two-hour training course, either at your shop or any market. Teach the manager and his assistant, where the drains and outlets in the various cases are, and how to clean them.

Show them how to manipulate the temperature controls.

Show them what to do when a circuit breaker disconnects because of high or low voltage

or for any other temporary reason.

Encourage him to use a vacuum cleaner in those hard to get to locations on frozen food cases.

Give him a typed list of a good housekeeping routine to follow once a month.

Mark in very plain language which motors belong to which cases.

Have a wooden chicken wire frame put around motors to

protect them from falling bottles and boxes.

Once a year, go over all emergency call invoices, and see what the troubles were and if there is a pattern which can be corrected.

Above all.

1. Learn your job.
2. Be honest with us.
3. Become a partner with us, so that together we can strive for that alluring, but illusive goal of perfect refrigeration.



KLIXON Protectors Minimize Appliance Motor Burnouts says Texas Appliance Dealer

DALLAS, TEXAS: Duke Doyle, owner of a high volume appliance store in Dallas, knows the value of Klixon Protectors. He states:

"We handle sales and service of practically all major appliances including freezers, refrigerators, washers, dryers and window air conditioners. Our service experience shows without a doubt that Klixon Motor Protectors are doing a good job of minimizing motor burnouts in these units."

Klixon Protectors Reduce Service Calls and Repairs by Preventing Motor Burnouts

The KLIXON Protector is built into the motor by the motor manufacturer. In such equipment as refrigerators, oil burners, washing machines, etc., they keep motors working by preventing burnouts. If you would like increased customer-preference, reduced service calls and minimized repairs and replacements, it will pay you well to ask for equipment with KLIXON Protectors.

WRITE FOR THE NEW FREE INFORMATIVE BOOKLET,
"THE STORY OF THE SPENCER DISC."



KLIXON METALS & CONTROLS CORPORATION
SPENCER THERMOSTAT DIVISION
2408 Forest Street, Attleboro, Mass.

Redmond

MICROMOTORS

One of largest stocks
in the world!

FACTORY DISTRIBUTORS
MARVIN L. "FERGIE" FERGESTAD
CYCLO-FREEZE CORP.
6318 Cambridge, Mpls. 16, Minn.
West 9-6794

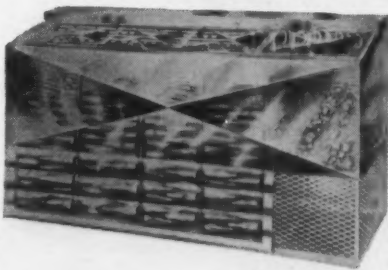
TEMKON

Air Conditioning and Refrigeration

TEMPERATURE LIMITED

Burlington Road, London, SW6. Cables: Temtur, London

Largest Producer of Air
Conditioning Units outside the U.S.A.

"A CASE OF COOL JUDGMENT"

**FLO-COLD
DRINKMASTER
STAINLESS STEEL
CUBER — COOLER.**

SOLD THRU DEALERS ONLY

WRITE

**United Friguator Engrs.
MENOMINEE, MICH.**

AVAILABLE IN SIZES 4 to 10 FT.

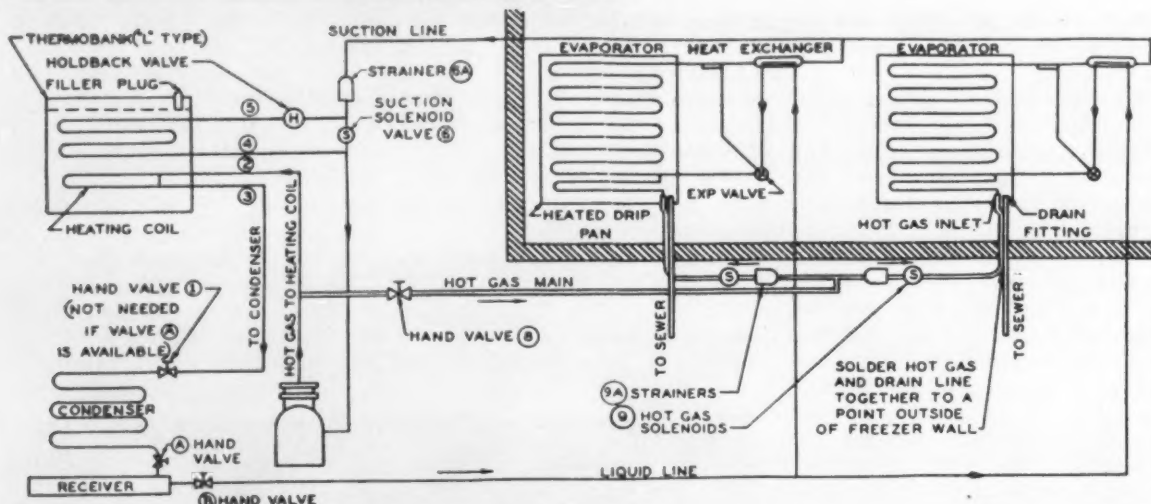


FIG. 3—By-pass circuit illustrated showing where re-evaporator and its holdback valve are normally by-passed through an open solenoid valve.

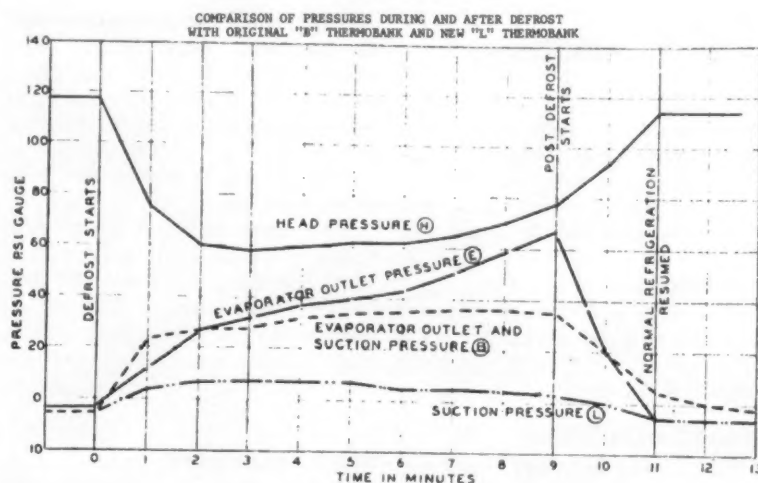


FIG. 4—Refrigerant pressures during defrost with the latent re-evaporator system graphically shown.

Latent Heat Defrosts New 'L' Thermobank (2)

2-Step Defrost Operation, Elimination of Winter Problems

By Otto J. Nussbaum, Chief Engineer, Kramer Trenton Co.

At high evaporating temperatures (+20° or higher) the small temperature difference between heat-hold water and the comparatively warm refrigerant results in insufficient heat trans-

fer to the re-evaporator during defrost. At refrigerant temperatures below -40° the pressure drop of the re-evaporator and its holdback valve would be critical and even a 45° heat

source would add excessive superheat during normal refrigeration.

For these conditions, it is therefore important that the holdback valve outlet pressure be set below the normal evaporating pressure but without affecting normal refrigeration.

This is accomplished in the by-pass circuit illustrated in Fig. 3, where the re-evaporator and its holdback valve are normally by-passed through an open solenoid valve.

The required temperature difference between heat-hold and re-evaporating refrigerant can now be produced by the lower holdback valve setting—regardless of evaporating temperature during normal refrigeration.

The ultra-low temperature problem is also solved since the suction vapor is not in contact with the 45° heat-hold during normal refrigeration. The pressure drop of the re-evaporator and its valve is eliminated from the circuit during refrigeration.

The refrigerant pressures during defrost with the latent re-evaporator system are graphically shown in Fig. 4. The hot-gas solenoid valve is opened while the fan on the evaporator is stopped by a defrosting timer.

In by-pass hookups, the suction solenoid valve is closed. The evaporator coil pressure rises to approximately 70 p.s.i. The holdback valve, acting like an expansion valve, controls the re-evaporating pressure at 10

p.s.i., controlling the flow of liquid from the evaporator to the re-evaporator.

Since the re-evaporating pressure is considerably lower than in the original sensible heat Thermobank, the compressor capacity during defrost is reduced and a lesser quantity of refrigerant is circulated.

Therefore, hot-gas line sizes and solenoid valve sizes are now reduced. Due to the holdback action of the pressure regulating valve, a considerably higher discharge temperature and pressure than in the sensible system is created. Thus the temperature difference between condensing hot gas and frost is increased. Defrost is accelerated in spite of the reduced hot-gas flow.

In the "Ice Coat Control" circuit the motor of the defrosting timer is connected in parallel with the compressor motor. Therefore, the total running time of the timer is the same as the compressor running time.

Defrost Initiated Only When Running

A defrost can be initiated only while the compressor is running and not while the compressor is off. The number of defrost cycles per day is therefore determined by the number of compressor operating hours.

Since no frost forms on the evaporator when the compressor is stopped, the number of operating hours is an accurate measure of the frost thickness.

Describes 2-Step Operation

A two-step defrost operation is used. Both steps are adjustable.

During step 1, the hot-gas solenoid valve is open and the evaporator fan is stopped.

During step 2, the hot-gas valve is closed. The evaporator fan remains off. The suction solenoid remains shut while the evaporator is evacuated until its

pressure returns to normal.

The addition of step 2 permits complete drainage of defrost water before normal operation is resumed. It prevents any significant refrigerator air temperature or pressure rise. And it prevents liquid surging or compressor overload when the suction solenoid valve opens.

In any hot gas defrost system, the opening of the hot gas valve provides the discharge gas with two optional open paths—either to the condenser or evaporator.

When the condenser pressure is high, as is usually the case during warm weather, discharge gas will go to the evaporator.

At the same time, due to the suddenly increased condensing capacity, the head pressure drops sharply, causing the liquid in the receiver to boil on a warm day.

The vapor formed in the receiver also finds its way into the hot-gas line and supplies additional heat for defrost.

After several minutes have elapsed, the receiver pressure and the discharge pressure equalize, so that condensation takes place both in the evaporator and in the condenser. The head pressure slowly rises as the frost is melted from the evaporator surface and heat transfer is reduced.

When the head pressure is low at the start of defrost (as would be the case with an air-cooled condenser in winter), there will be immediately a division of discharge gas flow as soon as the hot-gas valve opens for defrost.

Lower Head Pressure, More Refrigerant Flows

The lower the headpressure, the greater will be the amount of refrigerant flowing to the condenser and the less hot gas will find its way to the evaporator to perform defrost.

If the pressure at the outlet (Concluded on next page)

NEW, LOWER PRICE



THE THRIF'AIRE BOTTLE COOLER

First in economy . . . finest in design and now the new low low price of the La Crosse Thrif'Aire makes it your greatest value in bottle coolers! The exclusive "plug-in-panel" refrigeration unit is quickly and easily removed . . . adaptable to many uses. Beautiful grey baked enamel . . . 42" and 62" lengths . . . fingertip, stainless steel, slide-away doors.

Your welfare is ours . . . We don't sell direct

WRITE TODAY

LA CROSSE COOLER COMPANY

3000 LOSEY BOULEVARD SOUTH, LA CROSSE, WISCONSIN



EXPORT OFFICE: 125 BROAD ST., NEW YORK, CABLE: EXIMPORT

Edwards CO-AXIAL FREON CONDENSERS

A NEW REFRIGERANT CONDENSER

with these advantages:

- COST REDUCED 30% TO 40%
- CONDENSER WATER REDUCED 35%
- Refrigerant Charge Reduced
- Stabilizes Capillary Performance
- Smaller Cooling Towers Required
- Shipping Weight Reduced
- Many Shapes and Sizes Available (1 to 7½ tons)



Typical Configuration Available

USED BY MAJOR EQUIPMENT MANUFACTURERS

Contact our engineering department for FREE technical assistance, regarding your specific installation requirements.

Send for catalog TT-653 TODAY

EDWARDS ENGINEERING CORP.

103 ALEXANDER AVENUE • POMPTON PLAINS, NEW JERSEY

Telephone TERHUNE 5-2808

REFRIGERATION FIELD ENGINEER



Excellent opportunity with a leader in its field. Must have experience with food store refrigeration equipment and be willing to travel. To cover the south central states—Texas, Oklahoma, Louisiana, Arkansas, Kansas, and Missouri. Full company benefits, including retirement plan. Write N. P. Schumacher, C. V. Hill & Co., Inc., Trenton, N. J. stating experience, references and salary expected. All replies held confidential.

Thermobank Unit--

(Concluded from preceding page) of the evaporator is not raised above that corresponding to 32° F., condensation will not take place and no defrost is possible.

The apparent solution to this problem would be a shut-off valve at the condenser inlet which closes during defrost to prevent flow to the condenser.

Unfortunately, this simple solution will not always be successful. When the evaporator tubes are empty at the start of defrost, no refrigerant will be available for circulation during defrost unless vapor from the condenser-receiver can enter the defrosting circuit.

A closed shut-off valve at the condenser inlet under such conditions would result in an under-charged system during defrost.

It is apparent that a successful hot-gas defrost depends on a sufficiently high condenser pressure at the start of defrost.

This is accomplished by the "Winterstat" system which maintains a minimum condenser pressure regardless of season.

In the Winterstat method the condenser is flooded with liquid so as to inactivate part of its surface when the head pressure tends to drop.

By-Pass Around Condenser

It consists essentially of a by-pass around the condenser, controlled by a receiver pressure actuated valve.

This valve permits flow through the by-pass on a drop in receiver pressure, restricting drainage from the condenser.

The greater the flow through the by-pass, the larger a portion of the condenser is flooded with liquid refrigerant.

When the receiver pressure exceeds the Winterstat setting, the by-pass valve closes, permitting the condenser to drain normally and operate at its full capacity.

It can be seen that with the Winterstat method defrost always starts at a high condenser pressure. Discharge gas is not diverted to the flooded condenser. Therefore, the evaporator immediately receives a full supply of hot gas.

In practice, it is possible to obtain complete and rapid defrost with an air-cooled condenser located in a 0° ambient.

(The End)

Servicing Automobile Air Conditioners

(Vol. 2)

BY C. DALE MERICLE

The Kauffman unit is the fifth make to be discussed in the current series on automobile air conditioners. Makes previously described in this series were A.R.A., Artic-Kar, Frigette, and Frigikar. Several more makes by "independent" manufacturers will be reviewed in future instalments, following which units of most automobile manufacturers themselves will be described.

KAUFFMAN (2)

Kauffman Air Conditioning Co.

4505 Olive St.
St. Louis 8, Mo.

Controls

Controls on Kauffman air conditioners consist of a three-speed switch for the blower(s), an on-off toggle switch for the magnetic clutch, and a thermostat which cycles the clutch and thus the compressor in response to cooling needs.

Blower control is a rotating switch with "off," "low," "medium," and "high" speed positions. There is one blower switch for the U.D. under-dash model, being mounted on the left side of the cooling case assembly next to the driver. Trunk unit blower switch is attached to dash.

Clutch on-off toggle switch is mounted on the cooling case of the U.D. under-dash model, and is attached to dash for the trunk model. When the toggle switch is turned on, operation of the magnetic clutch is then controlled by the thermostat.

On trunk models thermostat is located in the parcel shelf; on under-dash models it is located in the cooling case assembly. Thermostat is adjustable so that cut-in and cut-out points of the magnetic clutch can be changed in the field.

SERVICE HINTS

Leak Testing

When a Kauffman car air conditioner is first installed, it is not necessary to introduce Refrigerant-12 into the system to check for leaks, the manufacturer advises.

Connect a gauge manifold to the suction and discharge service valves on the compressor.

Close gauge manifold valves (full clockwise position). Set service valves in center position. Run car engine at 1,500 r.p.m. until 60 p.s.i. pressure shows on both high pressure and compound gauges. Then stop engine.

A tight system should hold this pressure for 10 to 15 minutes, the manufacturer says. If the gauge pressure drops, there is a leak. Leaks can be located, the manufacturer advises, by applying a soap solution to all joints, including the compressor seal.

If no leaks are found, air should be allowed to escape slowly—to avoid discharging oil from compressor—from both high and low sides.

(The conventional leak check with a halide torch can be made, of course, if the system has a charge of Refrigerant-12.)

Evacuating System

Following the leak test, the system must be evacuated to remove air and moisture from the system.

Kauffman recommends use of a vacuum pump, which should be run until the low pressure gauge reads at least 25 in., preferably as close to 30 in. as possible.

Vacuum pump should be operated for 15 minutes while maintaining 25 to 30 in. of vacuum.

Charging System

Kauffman systems are charged through the low side in the conventional manner with Refrigerant-12.

Charge is 2 lbs. in U.D. under-dash models; 4½ lbs. in trunk models.

During the charging operation, the car engine should be run at 1,500 r.p.m. with a large fan blowing air through the condenser and car radiator. If desired, tap water can be sprayed

over radiator and condenser during charging instead of using a fan, Kauffman advises.

Operating Pressures

If the system is operating normally, an ambient temperature of 75° F. should result in a suction pressure of 16 to 25 p.s.i.g. and a head pressure of 100 to 165 p.s.i.g.

For every 10° rise in ambient temperature the head pressure should increase approximately 17 p.s.i.g.

Trouble Chart

The following is intended as a guide in analyzing service complaints in Kauffman conditioners.

No cooling.

This can be caused by one of, or a combination of, the following:

1. Drive belt broken.
2. Fuses blown in fan or magnetic clutch circuits.
3. Loose electrical connections.

4. Fan motor failure.
6. Magnetic clutch failure.
6. Loss of refrigerant charge.
7. Evaporator blocked by ice.
8. Expansion valve plugged by ice, foreign matter, or otherwise inoperative.

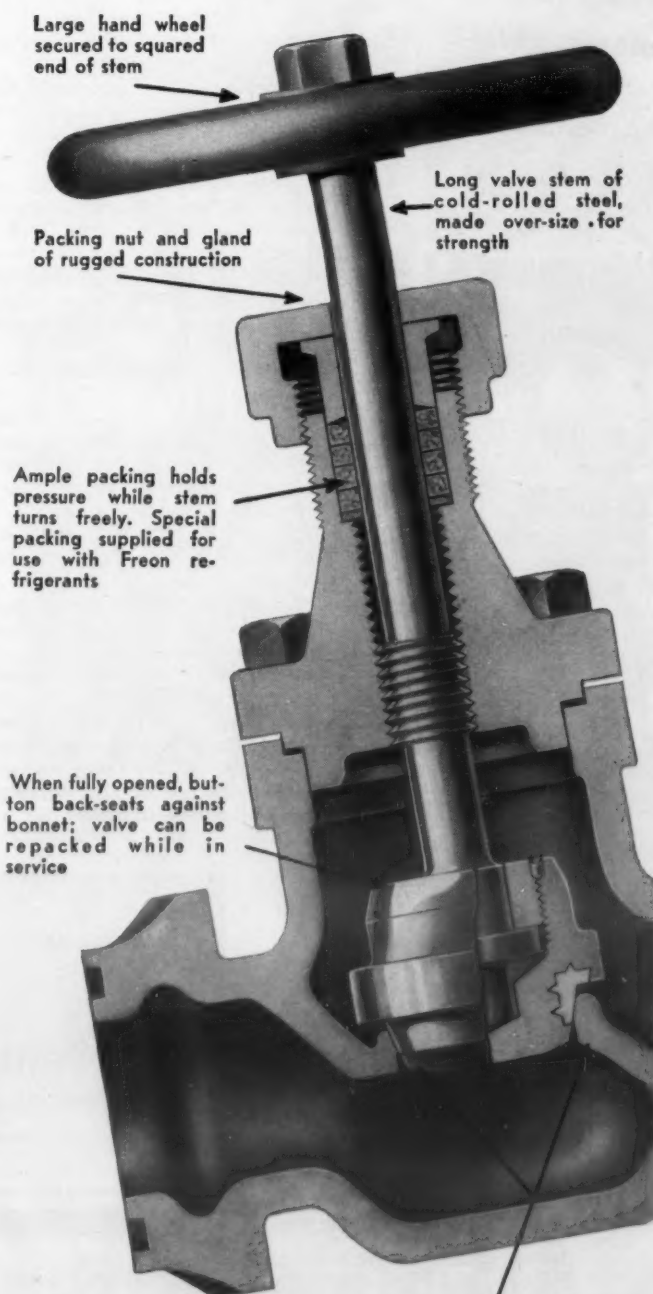
9. Lines restricted.
10. Compressor failure.
11. Thermostat failure.

Insufficient cooling.
This complaint can result from one of, or a combination of, the following:

1. Drive belt slipping.
2. Clutch slipping.
3. Shortage of refrigerant.
4. Overcharge of refrigerant.
5. Loose electrical connections to blower or clutch.
6. Condenser air passages blocked by dirt, bugs, etc.
7. Compressor service valves partially closed.
8. Thermostat defective.
9. Lines restricted.
10. Expansion valve plugged.
11. Receiver-drier plugged.



Valves are Superior for Refrigeration and Other High-Pressure Services

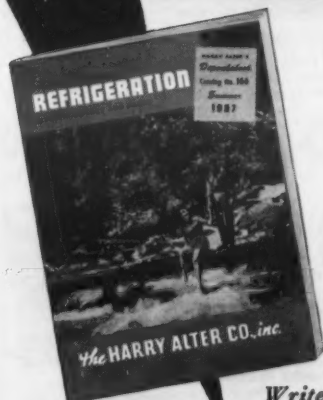


Castings of "May-pul" steel, especially developed for ammonia, Freon and high-pressure work

Patented high-angle seat insures tight closure with minimum pressure. Scale is pushed off the seat as valve enters

REFRIGERATION is our SPECIALTY

Air Conditioning and Electric Motors, Too!



OVER 10,000 ITEMS... the world's most comprehensive listing of parts and supplies... appear in the Harry Alter DEPENDABOOK No. 166 Summer, 1957 complete with illustrations, descriptions, prices and other useful information.

SAVE MONEY, time and effort by ordering the parts you need from this compact, easy-to-read, up-to-date catalog.

Write on your letterhead for the DEPENDABOOK

PARTS and Supplies

WHOLESALE ONLY

The HARRY ALTER CO., Inc., 1717 S. Wabash Ave., Dept. A, Chicago 16, Ill.

or visit branches

134 Lafayette Street
New York 13, N. Y.

122 Parkhouse Street
Dallas 7, Texas

Bldg. B, Unit 8, 690 Stewart Ave., S.W.
Atlanta 10, Ga.

DEPENDABLE REFRIGERATION SINCE 1882
FRICK CO.
WAYNESBORO, PENNA., U.S.A.

Refrigeration Problems And Their Solution

(As Written by Paul Reed)

The late Paul Reed, one of the refrigeration industry's most respected writers and teachers, wrote a column on "Refrigeration Problems and Their Solution" which was published regularly in AIR CONDITIONING & REFRIGERATION NEWS for more than 15 years.

Readers throughout the years have hailed this written material as some of the most practical and helpful that has ever been published. Fortunately, the author had an opportunity to revise some of this material and the NEWS is currently re-publishing it.

Testing Compressor Discharge Valves

A question from a reader asked what would be the permissible loss of pressure when making a discharge valve test. The following is the reader's letter:

"We have made the following test on a 20-hp. four-cylinder V-type compressor used on an air conditioning system employing 'Freon-12' as the refrigerant. The test was to determine if the discharge valves were leaking:

"We ran the compressor until a high side pressure of 100 p.s.i.g. was produced. Then we stopped the motor and rapidly closed the discharge service valve.

"Result—the discharge pressure dropped 30 pounds in one minute,

because of leakage of gas back through the discharge valves into the crankcase.

"Now, the question is: what is the maximum drop in pressure per minute at which one would determine that the discharge valves are leaking?"

THE ANSWER

In the first place, the above described method of testing compressor discharge valves for leakage has several faults and there are other and better ways to test discharge valves.

But it is reasonably sure that 30 p.s.i. pressure is too much to lose in one minute. The first few seconds might see a drop of a few pounds, maybe 5 or even as much as 10 pounds, but a drop of 30 p.s.i.g. per minute is certainly too much, even with this method. So it is quite probable that the discharge valves of this compressor are leaking excessively.

However, there are some things that could throw you off if you use this method.

1. You are confining a small amount of gas in a small space, but under a comparatively high pressure. Even a small leak can cause the loss of a lot of pressure, so it is likely that even though the pressure loss is as high as 30 p.s.i., the leak itself is comparatively small.

2. Maybe the leak was not past the discharge valve. The pressure is rather high (100 p.s.i.g.), so the leak may be to the outside air through the gasket between the discharge service valve and the compressor head. A small leak there would have the same effect on the gauge as leaky discharge valves.

3. When you stop the compressor with the condensing pressure up to 100 p.s.i.g., and then close the discharge service valve quickly, you trap the 100 p.s.i.g. in the compressor head. Also, at that instant the pressure in the condenser is 100 p.s.i.g. But as soon as the compressor stops, the condensing pressure starts to drop.

If the condensing unit is air cooled, the drop in condensing pressure will not be as fast as if it were a water-cooled unit. Nevertheless, the pressure in the condenser will drop, for the gas cools rapidly, since it is exposed to a large surface. It may quickly lose 25 or 30 pounds.

If, however, the valve stem does not fit the valve seat too smoothly, there may be quite a leakage there. That is, the 100 p.s.i. may leak past the valve stem and seat into the lower pressure in the condenser. Under this condition, the loss of pressure in the compressor head may be rather high.

Even if you had another gauge on the condenser, reading condensing pressure, you would not be able to detect any effect on it from the small amount of gas trapped in the discharge service valve.

So this method of testing discharge valves is not trustworthy, for a gasket leak or a leak of the discharge service valve shows up the same as a discharge valve leak.

ANOTHER TEST METHOD

Another method of testing discharge valves is to attach both a discharge and suction gauge (the discharge gauge just to be sure that there is a good discharge pressure, and for safety reasons, to also guard against possible excessive discharge pressures). The suction service valve is closed and the compressor run, to obtain a low vacuum on the crankcase only.

Operating in this manner, the compressor is pumping a vacuum against condenser pressure, so it is unlikely that even a good, efficient, compressor will pump much more than a 25-in. (of mercury) vacuum.

After the compressor has run a few minutes to be sure that it has pumped as good a vacuum as it can and that there is no more gas in the crankcase, the compressor is stopped. At first, there will be a slight rise in suction pressure as indicated on the suction pressure gauge.

If, after this small initial rise, the suction pressure as shown on the compound gauge stays the same, it is reasonably certain that the discharge valves are tight.

If they were leaking, the hot high-pressure gas coming back into the compressor, would cause the reading of the compound gauge to slowly rise.

However, this method is not very dependable either. A rise of crankcase pressure can be caused by several other things besides leaking discharge valves:

1. The seal might be leaking. The crankcase is some 10 or 12 p.s.i. below atmospheric pressure, which will tend to push air into the crankcase. The seal may leak a little, especially when the crankcase is on a vacuum, whereas it

may hold crankcase pressure up to 50 or 75 p.s.i.g.

Some seals are very effective in holding high crankcase pressures but not very effective in holding a vacuum. So with the crankcase on a vacuum, a seal leak may have the same effect on the crankcase pressure as a discharge valve leak.

2. A gasket leak may be mistaken for a discharge valve leak, for it, like a seal leak, will cause a slow rise in crankcase pressure.

3. The suction service valve may not shut off tightly, so suction pressure may be leaking into the crankcase past the valve stem and its seat.

4. Some refrigerant may have been left in the oil, and this refrigerant, vaporizing out of the oil may be mistaken for a discharge valve leak.

5. Still another objection to this method is that the quick reduction in crankcase pressure, right after the suction service valve is closed, will cause the refrigerant dissolved into the crankcase oil to boil out of the oil rapidly, and the oil will be so wildly agitated that "oil-slugging" will probably result.

On the favorable side for this method is that it is a fairly good test for compressor efficiency. In effect, it is a better test for the suction valves than for the discharge valves.

If the compressor can pull down to a crankcase pressure of 25 in. vacuum pumping against condensing pressure, it is reasonably sure that the suction (and discharge) valves are tight. This method is widely used as a field test for compressor efficiency.

THE BEST TEST METHOD

A better way to test discharge valves is to:

(1) Put on the gauges, a high-pressure gauge in the discharge service valve and a compound gauge in the suction service valve.

(2) Run the compressor normally with both discharge and suction service valves open, for a few minutes, at least until the crankcase is warm. This insures that there is the minimum amount of refrigerant absorbed in the oil.

(3) After the crankcase is warm, and with suction pressure normal, stop the compressor and then quickly close the suction service valve.

(4) There should be no change in the reading of the compound gauge, even after as much as five minutes. If there is an upward creep, it must be due to leakage past one or more of the discharge valves.

This method is more dependable because:

(1) The crankcase is warm, and there is a very minimum amount of refrigerant in the oil; and what is there, is not caused to vaporize, for the crankcase pressure has not been materially reduced.

(2) Crankcase pressure is the same as evaporator pressure and pressure in the suction line, so that if the suction service valve does leak somewhat, there will be little effect on crankcase pressure.

(3) On most installations, suction and crankcase pressures are above atmospheric pressure, so slight seal or gasket leaks are not mistaken as discharge valve leaks.

CLOSE BY-PASSES WHEN TESTING

There is one precaution that must be observed in using this method of testing for discharge valve leaks. If a high-side oil separator is used, or any form of by-pass is used; or if the compressor is equipped with an unloader (which is a form of by-pass), these devices will by-pass pressure from the discharge or condenser side and thus show on the compound gauge, the same as a discharge valve leak.

When testing for discharge valve leaks, close the valves in any by-pass lines and in the oil-return line from the oil separator to the crankcase.

Henry 'Information Center'

Wholesalers of Henry

Valve Co. have received a counter display entitled "HENRY Information Center." It is made of steel and is said to require only a minimum of jobber's counter space. Terraced compartments hold small descriptive pamphlets of various Henry products. The base of the display is formed to hold packets of matches. Initial folders furnished with the display describe Henry packless valves, wing cap valves, pressure relief valves, strainers and filters, and pressure sealed driers.



For Your Reprint Copy

"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich. Only 25¢ each.

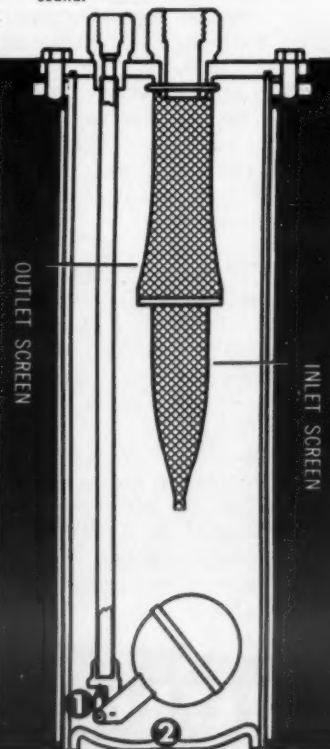
get peak
refrigerating
EFFICIENCY

with a

TEMPRITE OIL SEPARATOR

Oil is separated from the gas before it can get into the evaporator and is returned to the compressor automatically...

- Full capacity of expansion valve assured.
- Evaporator heat transfer increased.
- Constant clean oil lengthens compressor life.
- TEMPRITE oil separator muffles sound.



1 OIL RETURN VALVE: Located ABOVE the sludge reservoir.

2 SLUDGE RESERVOIR: Traps sludge, oil carbon, and foreign substances, preventing their continued flow through the refrigerating system.

Complete range of capacities for refrigerants 12 and 22. ASME and UL approved.

8 PAGE BOOKLET
ON REQUEST

Describes many advantages of Temprite Oil Separators.



Temprite Products Corporation

P. O. Box 72A • E. Maple Rd.

Birmingham, Mich.

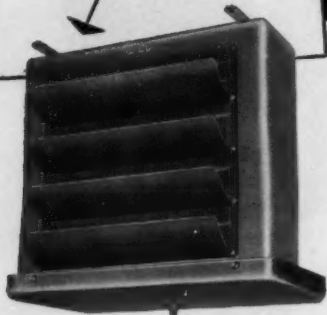
Send me Oil Separator Booklet No. T-397.

Name _____

Address _____

City _____ Zone _____ State _____

LARKIN means good looks



LARKIN HUMI-TEMP UNIT

For clean, smart lines, satin-smooth finish, harmonious color and overall good looks—Larkin leads. Behind this beauty is the quality and performance that keeps Larkin out in front!

Manufacturers of the original Cross-Fin Coil • Humi-Temp Units • Frost-O-Trol Hot Gas Defroster • Air Cooled and Evaporative Condensers • Cooling Towers • Air Conditioning Units and Coils • Direct Expansion Water Coolers • Heat Exchangers

LARKIN COILS
319 MEMORIAL DR., S.E. • ATLANTA, GA.

NO CUSTOMER IS TOO BIG, NOR TOO SMALL



IF YOUR product involves air movement, YOU should know about MEIER propellers

Sure, we're proud of our list of impressive, prestige accounts... big, well-known manufacturers, but: Along with these "Industrial Giants," MEIER is serving a lot of "little fellows," too. Some of the smaller plants without adequate engineering rely entirely on MEIER engineering and technical service. And, from our wide collection of standard components, we're able to produce the right propeller for their products without going into costly tooling and delay in designing a new blade.

Meier Electric & Machine Company, Inc. offers you over 50 years of experience, plus the scientific and technical know-how and equipment necessary to provide you with the correct propeller for YOUR product. With this background of experience—coupled with continuous scientific research, modern production and technical facilities—we're in a wonderful position to serve both large and small manufacturers of products involving air movement. Try MEIER.

MEIER ELECTRIC & MACHINE CO., INC.
3525 East Washington Street • Indianapolis 7, Indiana

For more information about products advertised on this page use Information Center, page 16.

Percentage of Salesmen's Earnings In These Three Categories:

Salary	No. of Dealers	Commissions	No. of Dealers	Bonuses	No. of Dealers
20%-25%	6	1%-5%	9	1%	4
30%-40%	8	6%-10%	8	2%	2
40%-45%	4	15%	1	3%	2
50%	13	20%	8	5%	10
55%-60%	13	25%	6	6%	2
70%-75%	9	30%-40%	13	7%	1
85%	4	50%	14	10%	10
90%-99%	20	60%-66%	8	14%-15%	2
100%	7	70%-75%	9	20%	3
		95%-98%	4		
		100%	28		
		128 Reports			

Average Salary Per Week (No. of Dealers)	Lowest Salary Per Week (No. of Dealers)	Highest Salary Per Week (No. of Dealers)
\$ 50 to 65 7	\$ 31 1	\$ 52 1
66 to 75 15	46 1	72 to 90 5
76 to 85 16	50 to 60 14	100 to 105 8
90 9	61 to 70 10	110 10
91 to 100 43	71 to 80 26	115 to 120 9
110 9	81 to 90 21	125 13
120 to 125 17	95 to 100 11	135 to 140 12
126 to 150 16	112 1	144 1
154 1	115 1	150 9
166 1	125 4	165 5
175 1	144 1	171 to 175 4
	150 1	180 to 185 3
		190 4
		200 2
		225 1
		235 2

Salesman Compensation Survey--

(Concluded from Page 1, Col. 2) while others employs none.

The total number of salesmen reported in the employ of dealers surveyed totalled 590.

These men make an average of \$102.50 per week, with their lowest weekly average in 1956 running about \$80, the highest weekly average running about \$122.50.

MOST WORK INSIDE AND OUTSIDE STORE

Most of the men work both inside and outside the appliance store. Of the 590 reported on, 403 work both in and out of the store, 162 work inside only, and only 25 spend all their time selling outside.

Asked whether they provided car allowance for their salesmen, 48 dealers replied "yes," 85 said "no." Similarly, the number of dealers allowing expense accounts for their salesmen is small. Of 121 dealers, 107 provide no expense accounts, only 14 provide such an account.

The survey showed the average monthly net sales volume of salesmen after trade-ins, is about \$6,664.

Compensation for salesmen selling this volume is mostly on a salary plus commission basis.

Of 141 reports on how salesmen are paid, 73 dealers pay salary plus commission; 32 pay straight commission; 13 pay straight salary; 12 pay salary and annual bonus; 11 pay commission plus salary, plus bonus.

Benefits offered these salesmen other than income include paid vacations (94%). A substantial number of dealers (75%) offer group insurance.

Other benefits listed by dealers were diverse—some offered assistance to employees building plans, end-of-the-year bonuses, their own homes (apparently

advancing the down payment), or one-half day extra per week off during summer months.

Twelve per cent of the employers give paid sick leave, and 6% offer their salesmen retirement plans.

Most dealers report they give "one month" as a fair trial period before a new salesman is shifted to a full or partial commission compensation.

The majority of dealers reported no varying scale of commissions between products (television, major appliances, etc.). Of 99 dealers, 61 stated they had no varying scale on commissions, 35 reported a varying scale, and nine reported their commission scale varied with the mark-up price on the item being sold.

On sales involving a trade-in allowance, the compensation for 64% of the salesmen is based on net sales. Nineteen per cent of the dealers pay their salesmen on the basis of net difference after the trade-in is deducted, and a few dealers base compensation on gross profit, or net profit. One dealer bases compensation on the total sale.

'SPIFF' INCENTIVE PROGRAM MOST POPULAR

Dealers find a "spiff" incentive program the most popular, with bonuses second. Sales contests and prizes are also popular. Some dealers offer salesmen trips, others offer dinner parties which the salesmen's wives may attend.

Few of the dealers offer long range programs for holding their salesmen. Of 95 reports, only 26 dealers stated definite programs for holding salesmen. Nine dealers offer "fair treatment." Others offer pension plans, end-of-the-year bonuses, and profit sharing programs.

FOR SALE: REFRIGERATION EQUIPMENT

- 2—10 H P Condensing units, Brunner model W 1000 FL..... \$1250.00 ea.
- Halstead & Mitchell add-on condensers model T 1000.
- 1—5 H P Condensing unit, Brunner model W 500 FC..... 500.00
- 5—McQuay cooler coils, Model 22-4, Serial 19223..... 50.00 ea.
- 2—10 H. P. blast freeze coils by National Locker Plants Company, Des Moines, Iowa..... 100.00 ea.
- 7 ft. x 35 in. x 14 in. Deep
- 154 % tubes % O.C. Fins
- 10 Circuits
- 2 fans each. 16 in. wheel
- 4—Freeze-Rite open frozen food sales display cases..... 200.00 ea.

All the above equipment in excellent condition. Looks like new. May be seen at the following.

Lee Milligan, Inc.

730 S. Dort Highway, Flint, Mich., Telephone CEDar 4-5691.

Airtemp--

(Concluded from Page 1, Col. 3)

branch operations, M. T. Bard; director of Airtemp Construction Div., R. B. Stotz; director of zone operations, Sydney Anderson, Jr.; director of national accounts and government sales, A. J. Schiffmann; director of sales planning, M. B. Smith.

Titles indicate the responsibility of each director. Sales planning will include marketing, press relations, merchandising, distribution, and advertising.

At the field level five zone operations will replace the company's present ten regional operations. Zones are being established as follows:

Northeast Zone—headquarters, Leonia, N. J.—will comprise what was formerly the company's New York and Philadelphia sales regions. Zone manager will be N. F. Foulds.

Southeast Zone—headquarters, Atlanta—will comprise former Atlanta sales region and eastern half of New Orleans region. Zone manager will be Warren Fitch.

Mid-Central Zone—headquarters, Chicago—will include former Chicago, St. Louis, Detroit, and Dayton regions. Zone manager will be Harry P. Young.

Southwest Zone—headquarters, Dallas—comprises former Dallas region and western half of New Orleans region. Zone manager will be F. G. Hill.

West Coast Zone—headquarters, Los Angeles—will include former West Coast region, plus Colorado-Wyoming area, which was part of St. Louis region. Zone manager will be E. D. Dickson.

I-B-R Meeting --

(Concluded from Page 1, Col. 5)

other heating research facilities.

A symposium on cooling will highlight Wednesday's program. It will cover the physiological aspects, chilled water systems, in-wall units, and controls. The symposium will start at 1:30 p.m.

Cooling research at the I-B-R research home will be reviewed Wednesday morning, when talks on heating and ventilating systems for schools and hot water heating systems for tall buildings are scheduled.

All sessions except the banquet Tuesday night will be held in the Illini Union building here. The banquet will be served in the Urbana-Lincoln hotel.

Registration fee for the conference is \$20. This does not include lodging or meals. Registration forms may be obtained from the Division of Engineering Extension, University of Illinois.

Tuesday morning's program consists of orientation and outline of I-B-R research at the university. In the afternoon, it will cover performance of indirect water heaters, laboratory instruments and their use, and an inspection of the I-B-R laboratory, I-B-R research home, mechanical engineering laboratory, and the physical environment unit.

At the dedication ceremonies in the evening, an address on "The Past, Present, and Future of the Institute of Boiler and Radiator Manufacturers" is scheduled.

Government Contracts

SYNOPSIS OF PROPOSED PROCUREMENT

ARMY

U. S. Army Engineer District, Baltimore Corps of Engineers, 24th St. and Maryland Ave., Baltimore, Md.
CONVERSION OF HEATING PLANT. Signal Corps Engineers Laboratories, Ft. George G. Meade, Maryland. Work consists of conversion of main boilers to combination Gas-Oil Fire burners complete with necessary piping and controls; modifying boiler settings, combustion chambers; furnishing and installing oil storage day tank and all required piping, valves, vent and appurtenances; furnishing and installing oil transfer pump. Extending gas line from existing valve on east side of road to main bldg. and Generator Bldg.; furnishing and installing an oil line from existing 10,000 gallon storage tank to main bldg.—Job—IFB ENG-18-020-58-2B—Bid Opening 28 Aug. 57.

Corps of Engineers, Tullahoma District, P.O. Box 2091, Tullahoma, Tenn.
FURNISHING AND INSTALLING COOLER No. 4 for Supersonic Circuit of Propulsion Wind Tunnel Arnold Eng. Development Center, Coffee County, Tenn. which inc. complete air-to-water cooler assembly, inc. cooling coils, raw water, drains and vent piping, valves, specialties, flexible connections, pipe anchors, supporting steel structure, fairings and attachments, instrumentation, controls, and elec. work. Bid sets are avail.—Job—IFB ENG-40-126-58-2B—Bid Opening 17 Sept. 57.

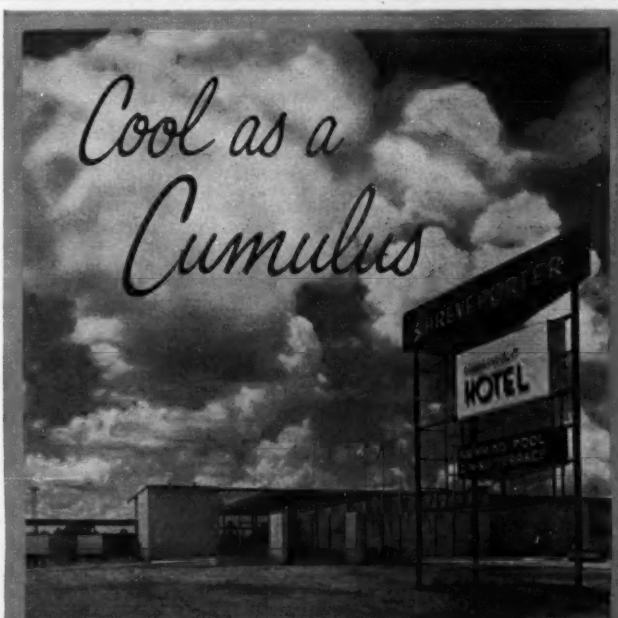
GENERAL SERVICES ADMINISTRATION

General Services Administration, Region 7, Business Service Center, 1114 Commerce, Dallas, Texas.
AIR CONDITIONER, U. S. Custom House, Galveston, Texas—Job—IFB CR71-423—Bid Opening 10-1-57.

General Services Administration, Region 5, 575 U. S. Courthouse, 219 So. Clark St., Chicago, Ill.
HEATING SYSTEM PIPING REPAIRS. USPO (New), Toledo, Ohio—Job—IFB D&C 629—Bid Opening 9-5-57.

U. S. DEPARTMENT OF COMMERCE

National Bureau of Standards, Purchasing Office, Boulder, Colo.
3 HP. AIR CONDITIONING UNIT—2 ea.—IFB 22-58—Bid Opening 9-4-57.



Quiet Beyond Belief!



d-h AIR CONDITIONING

Says: Jack Tullos, President-Manager of the eye-filling new Shreveporter Highway Hotel...

- "Quite a saving in initial and operating costs!"
- "Periodic filter change our only maintenance."

Drayer-Hanson can cite similar case histories, world-wide: big jobs or small; new or old construction; residential, commercial, industrial...



Request SPOTAIRE literature

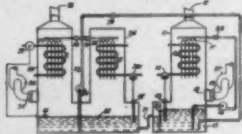
drayer-hanson
DIVISION OF NATIONAL U.S. RADIATOR CORP.

3301 MEDFORD STREET
LOS ANGELES 63, CALIFORNIA
CABLE: FORTRADE

PATENTS

Week of July 9 (Continued)

2,798,570. AIR CONDITIONING. Gilbert A. Kelley, Toledo, Ohio, assignor to Surface Combustion Corp., Toledo, Ohio. Continuation of abandoned application Serial No. 76,079, Feb. 12, 1949.

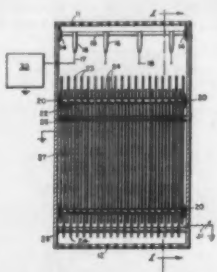


9. In a method for controlling the humidity of a gas by contacting such gas with a refrigerated hygroscopic solution and heating hygroscopic solution to remove moisture therefrom, the steps of maintaining two separated bodies of hygroscopic solution and two independent recirculating systems, recirculating solution in one such independent system from the first body over a refrigerated surface, recirculating solution in the other such system from the second body over a heated surface, the refrigerated surface and the heated surface being remote from the bodies, transferring concentrated solution from the second independent body to the first body at a fixed rate, and transferring dilute solution from the first independent body to the second body at a rate greater than said fixed rate by the rate at which moisture is absorbed from the gas.

2,798,572. ELECTROSTATIC PRECIPITATORS. Arnold C. Fields, Medfield, Mass., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa.

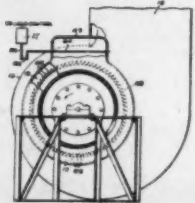
1. An electrostatic precipitator comprising a plurality of spaced-apart parallel collector plates, means for grounding alternate ones of said plates, means for insulatedly supporting the

others of said plates, ionizer wires upstream with respect to air flow of said plates, the upstream edges of said others of said plates extending closer to said wires than the upstream edges



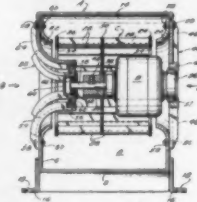
of said alternate plates, and means including a resistance for connecting said other plates to ground.

2,798,558. VOLUME CONTROLS FOR CENTRIFUGAL FANS. John E. McDonald, Newton, Mass., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa.



1. In combination with a centrifugal fan having a fan wheel, an axial, primary gas inlet passage to the wheel, and a gas outlet, means forming a secondary gas passage extending around said inlet passage and having an outlet discharging into said inlet passage, means forming a gas recirculation passage connecting said first mentioned outlet with the inlet of said secondary passage, and spin vanes in said secondary passage adjacent said second mentioned outlet for spinning the gas entering the inlet passage therethrough in the direction of wheel rotation.

2,798,559. DIRECT DRIVE BLOWER. James W. Tweedy, Owosso, Mich., assignor to Redmond Co., Inc., Owosso, Mich.



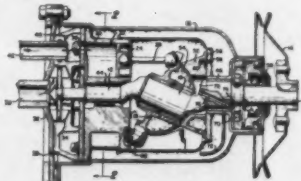
1. A blower-motor combination comprising a blower housing having side walls, a blower wheel within said housing between said side walls, a motor having a driving shaft extending from one end thereof, an end of said motor being mounted on one of said housing side walls, the body of said motor being at least partially received inside said wheel, a hub located intermediate the length of said wheel, said hub operatively connecting said wheel to said shaft so that the former is driven by the latter, the end of said shaft being located inside said wheel, said other side wall having an element connected thereto which extends into said wheel, and a bearing carried by said element within which said shaft end is rotatably received, said bearing and said mounting for said end of said motor comprising substantially the sole support for said blower wheel and motor within said housing, and said hub comprising substantially the sole support of said blower wheel on said motor.

2,798,560. BLOWER MOUNTING. Edwin E. Flynn, Grand Rapids, Mich.



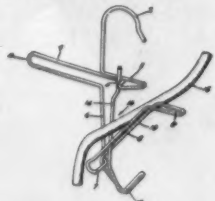
1. In combination, a housing including a vertically disposed back wall, spaced parallel horizontally disposed top and bottom walls, a conduit extending through said top wall for conveying hot air from a source of supply, there being an opening in the bottom wall of said housing for the egress therethrough of hot air, the front of said housing being open, a door hingedly connected to the front of said housing and provided with a plurality of spaced parallel louvre openings therein, a pair of rails secured to each of said top and bottom walls and said rails including offset portions defining trackways, a pair of similar vertically disposed spaced parallel plates having horizontally disposed lips on their upper and lower edges slidably engaging said trackways. . . .

2,798,563. REFRIGERATING APPARATUS. Charles A. Chayne, Bloomfield Township, and John Dolza, Davisburg, Mich., assignors to General Motors Corp., Detroit.



1. In a wobble plate type of compressor, a housing, a shaft journaled in said housing, a wobble plate carried by said shaft and driven thereby, pumping means operated by said wobble plate, a ball and socket type of end thrust bearing assembly for said wobble plate comprising a socket element supported by said housing and a semispherical ball member complementary to said socket element and carried by said wobble plate, an end thrust bearing element supported in fixed relationship to said housing and surrounding said shaft and having a bearing surface perpendicular to the axis of rotation of said shaft, said socket element being supported on said bearing element in sliding engagement therewith, said socket element and said bearing element having complementary means formed thereon for limiting the extent of sliding movement.

2,798,587. AUTOMATIC VOLUME CONTROL DEVICE. Donald A. Hamilton, Burbank, Calif., assignor to Don Baxter, Inc., Glendale, Calif.



1. An automatic shutoff device for a tubing passing liquid to a container suspended by the device, which comprises two attachment elements on the device, one for attaching a container

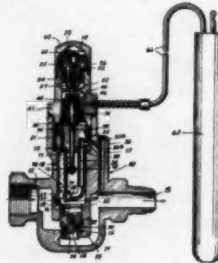
Editor's Note: Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented.

Printed copies of patents, reissued patents, and patent designs may be secured from the Patent Office; patents and reissues are 25¢ each, while designs are furnished at 10¢ each. Copies should be ordered by number and title and a mention of the fact if they are either Designs or Reissues.

Address orders to: Commissioner of Patents, Washington 25, D. C.

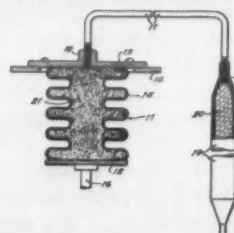
to the device and the other for mounting the device, the device including means for yieldingly holding the attaching elements together permitting the distance between the elements to increase with increase of the suspended load, and tubing clamping means normally retained in the open position and releasable at a predetermined load to move to a position cutting off flow through said tubing.

2,798,589. SNAP-ACTION VALVE. Lyle S. Houghton, Brentwood, Mo., assignor to Alco Valve Co., University City, Mo.



1. A valve having a valve member adapted to be operated into contact and out of contact with a valve seat for control of fluid therethrough including means for actuating said valve member with an instantaneous snap action comprising a first valve operating member reciprocally movable between a first and second position, a second valve operating member pivotally connected to a stationary support, said second operating member having a first arm which is movable into and out of contact with the first valve operating member and adjustable means for controlling the contacting relationship therebetween, said second operating member being further provided with a second arm adapted to be moved in operating relation into and out of contact with the valve member rigidly connected to said first arm at the pivotable connection, and a resilient actuating element connected to the valve member and to said second valve operating member tending to open and close the valve responsive to movement of said first valve operating member when it reciprocates.

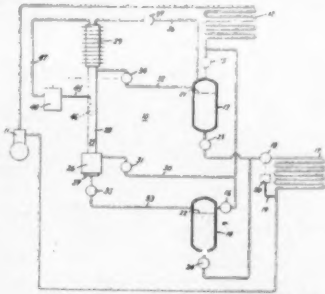
2,798,764. THERMOSTATIC CONTROL SYSTEM. William A. Ray, North Hollywood, Calif., assignor to General Controls Co., Glendale, Calif.



1. In a thermostatic control system: means, at least in part of metal, defining a work chamber having a wall movable in response to variation of pressure in the chamber; a metallic thermal bulb adapted to be subjected to the controlling temperature; means interconnecting said bulb and said work chamber so as to form therewith a closed pressure system, and including means defining a restricted passage; solid matter, having a low coefficient of thermal expansion, within said bulb; said solid matter being of an amount such as to nearly fill the bulb, and of such size that it cannot pass through said restricted passage; and a fluent force-transmitting medium filling said pressure system; the fluid capacity of said bulb relative to that of said work chamber being such that the amount of said medium in the work chamber is greatly in excess of that in the bulb; said medium being a mixture comprising a nonmetallic liquid, and solid matter having a low coefficient of thermal expansion and so finely particled that it can flow freely throughout the system. . . .

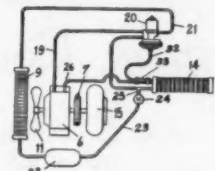
Week of July 16

2,799,142. DUAL TEMPERATURE REFRIGERATION. Albert E. Schubert, Schenectady, and Theodore L. Etherington, Ballston Lake, N. Y., assignors to General Electric Co.



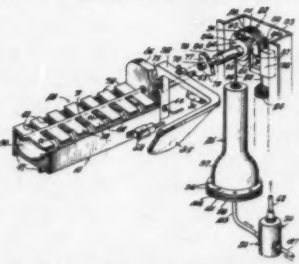
1. A method of refrigeration which comprises providing a pair of refrigerants in a refrigeration system, selectively circulating one of the refrigerants through the system, substantially purging the system of said one refrigerant, circulating the other refrigerant through the system, and purifying the one refrigerant during the circulation of the other refrigerant.

2,799,143. AIR CONDITIONING APPARATUS. Raymond A. Weigel, Cadillac, Mich., assignor to Kysor Heater Co., Cadillac, Mich.



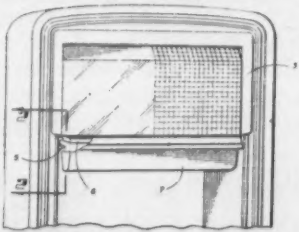
7. A self limiting air conditioning system adapted to be continuously driven comprising, a compressor, a condenser, expansion valve and evaporator connected in a refrigerant circulating circuit with said compressor, a by-pass valve and conduit connected to by-pass refrigerant directly from said compressor to the inlet of said evaporator when said by-pass valve is open, a thermally responsive device positioned to be responsive to the temperature of refrigerant leaving said evaporator and connected to close said by-pass valve upon increase of temperature of the device, adjustable means biasing said by-pass valve to open position, and means for equalizing the pressure on opposite sides of said compressor prior to starting the compressor.

2,799,144. AUTOMATIC ICE MAKER. Ralph D. Barton, Evansville, Ind., assignor to Servel, Inc., New York, N. Y.



1. An ice maker comprising a mold having a generally arcuate contour, means for filling the mold with water, a freezer for congealing water in the mold, and an ejector mechanism for removing ice from the mold said ejector mechanism including a shaft mounted for rotation above the mold and extending longitudinally thereof, a plurality of fingers mounted on said shaft on opposite sides of the longitudinal axis thereof, means for holding said fingers above the mold out of contact with water therein during the congealing of such water, and means for rotating said shaft whereby the attached fingers are moved into and out of the mold for removing ice therefrom.

2,799,145. REFRIGERATOR DRIP TRAY AND SUPPORT. Robert A. Jansen, Cincinnati, Ohio, assignor to Avco Mfg. Corp., Cincinnati, Ohio.



4. A drip tray for a refrigerator comprising a planar bottom wall; upright side, rear, and front walls joined integrally with said bottom wall at its edges; a plurality of upright parallel partitions extending between said side walls and also between said front and rear walls in mutually perpendicular relationship, said partitions being discontinuous at their intersections to define flow channels; flanges extending laterally from said side walls; and at least one ramp formed integrally with each flange.

(To Be Continued)

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications \$10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS WANTED

NEW MANUFACTURERS agency in Atlanta, Georgia wishes to concentrate on air conditioning and allied lines. 7 years in contracting, designing, layouts. Excellent quarters. Hard workers, will consider only reputable equipment. Will handle entire state of Georgia, parts of surrounding areas if necessary. Write HUNTER, 666 Metal Road, N. E., Atlanta, Georgia.

AIR CONDITIONING sales and application engineer for state of Florida. Experienced, progressive with exceptional sales ability. Presently employed, but will be available in a few weeks. Position must have opportunity for advancement on incentive base with salary. Age 39. Married. BOX A5859, Air Conditioning & Refrigeration News.

MANUFACTURER'S REPRESENTATIVE now selling air conditioning equipment, heating controls and accessories in Ohio, Indiana, and Michigan desires one more type of non conflicting product in same territory. BOX A5864, Air Conditioning & Refrigeration News.

SOUTHEASTERN AREA. Atlanta headquarters—Consider these qualifications: division manager, zone sales manager, factory sales supervisor and director of sales training for top names in the industry. Desires regional sales position. Write BOX A5865, Air Conditioning & Refrigeration News for complete resume.

POSITIONS AVAILABLE

GRADUATE MECHANICAL engineer to design plumbing, heating, air conditioning, in progressive Arch/Engrs. office, Indianapolis. Top salary, bonus, profit sharing plan. Address GARNES & MOORE & ASSOCIATES, INC., 826 K of P Bldg., Indianapolis 4, Indiana.

WANTED EXPERIENCED commercial refrigeration and air conditioning serviceman. Top compensation in line with applicant's ability. Year-round employment assured for good man. Service truck furnished. Give experience, references, phone number with application. MAKSYM REFRIGERATION ENGINEERS, 8238 Woodward, Detroit 2, Mich.

QUALIFIED COMMERCIAL refrigeration and air conditioning service men. Plenty year round work—Top pay scale. Hussmann—Frigidaire experience preferred. WHITE DISTRIBUTING COMPANY, 907 E. First Street, Wichita, Kansas.

WANTED: RETIRED engineer for air conditioning in Florida, the finest place in the world to live in retirement and at the same time have a light job to occupy your time and supplement your retirement income. Replies will be treated in the strictest of confidence. Reply BOX A5861, Air Conditioning & Refrigeration News.

WANTED: EXPERIENCED air conditioning salesman for Florida, "The Land of Sunshine". Nationally advertised line, one of the big four. Opportunities unlimited; a chance to work without seasonal let-up in business. Attractive proposition. Replies confidential. Reply BOX A5862, Air Conditioning & Refrigeration News.

EQUIPMENT WANTED

WANTED TO buy any quantity of distressed—job lot or short inventories of new refrigerators, ranges, washers, dryers, ice cube makers, reach-ins, air conditioners, etc. from manufacturer for cash bargain. What have you? Replies held in strict confidence. Write giving full details to: BOX A5863, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

USED 5-TON Carrier—Model 27Q6-214 freezer room handling unit. One 5 h.p. remote Carrier unit on system. One 5 h.p. Carrier unit piped in as stand by unit. Complete system. Make offer. MERCHANTS REFRIGERATION INC., 1416 Broadway, Lorain, Ohio.

BUSINESS OPPORTUNITIES

LIVE IN beautiful Miami, Florida! Well established air conditioning and heating corporation. Over \$100,000 gross last year, and showing an increase for 1957. Well advertised with a good name. Leading nationally advertised franchise lines. Will sell for \$15,000. Long lease. BOX A5860, Air Conditioning & Refrigeration News.

MISCELLANEOUS

ATTENTION SERVICEMEN: Send for free circulars and bulletins on refrigeration parts and equipment. Real money saving values: WALTER W. STARR, 2833 Lincoln Avenue, Chicago 13, Illinois.

Announcing

THE NEWS

4 POINT PLAN

FOR PROMOTION OF THE 10th EXPOSITION OF THE AIR CONDITIONING & REFRIGERATION INDUSTRY

October 28 is "First-of-Four" Show Promotion Issues.

This year, the NEWS has geared to help you get the best possible results from the 10th Industry Exposition. Again this year, not one but *three* pre-show issues will help promote interest and attendance at the show; three issues will be available to help you pre-sell your prospects, remind them of your booth number, invite them to visit. And—the traditional show issue will remind them of your exhibit and act as a handy reference guide on where to go, what to see. Be sure to reserve enough space to tell your whole story in at least one of the show promotion issues.

The NEWS four-point issue dates:

- 1 OCTOBER 28 Pre-Show Issue . . . special emphasis on Commercial Refrigeration
- 2 NOVEMBER 4 Pre-Show Issue . . . will feature Air Conditioning
- 3 NOVEMBER 11 Pre-Show Issue . . . all about Parts and Supplies and the OEM market
- 4 NOVEMBER 18 Show Issue . . . big, fact-packed Show Issue

Last forms close 12 days preceding date of issue.

Take Advantage of these Special NEWS Merchandising Services.

1. Extra copies of the NEWS issue in which your advertisement appears can be sent to your select customers and prospects. A special bargain price is available for any of the four promotion issues—only twenty cents per copy.
2. Reprints of your advertisement are available at cost. Simply ask your NEWS representative or write

to the NEWS Merchandising Department for a quotation.

3. Additional merchandising services are available upon request. Your local representative has complete details. But to be sure that you have your complete program in time for the show, please contact him well in advance.

Join with the NEWS to Help Break Attendance Records.

Your success at the show depends upon the attendance from November 18 through 21. The NEWS four-point promotion plan is helping to build this into the biggest exposition ever.

With three big pre-show issues, everyone in the industry will know the news about the 10th Exposition well in advance. The NEWS will combine publicity, advertisements, and editorial columns to encourage attendance.

Your participation in one or more of

these pre-show issues—and of course the big Show Issue—will make your customers and prospects aware of the products you intend to exhibit. You can help encourage attendance and help yourself to more results by making sure that you get the maximum activity.

The pre-show issues are timed to hit your market at the high point of buyer interest: October 28, November 4, November 11. So make your reservations now to be in one or all.

Special Show Issue Distributed at the Show.

Most important of all—be sure your advertisement in the Show Issue tells your whole story. Your customers and prospects will want to know where you are and what you are exhibiting.

After the Show, they'll refer to the Show Issue for those products which are on their "must investigate" list. Send your space reservation now.

AIR CONDITIONING & REFRIGERATION

The Newspaper of the Industry



NEWS

450 WEST FORT STREET • DETROIT 26, MICHIGAN

The newspaper that carries more advertising by far than any other publication in the field.

NEW YORK, 521 FIFTH AVE.
MURRAY HILL 2-1928-9.
ROBERT M. PRICE.

CHICAGO, 134 S. LA SALLE ST.
FRANKLIN 3-8991.
AL SCHILDHAMMER.

LOS ANGELES, 4715 CRENSHAW BLVD.
AXMINSTER 2-9601.
JUSTIN HANNON.

DETROIT, 450 W. FORT ST.
WOODWARD 2-0924.
JOE SULLIVAN.

FHA on Air Conditioning--

(Concluded from Page 1, Col. 5)

Neil Connor, director of FHA's architectural standards division, said the bulletin on room air conditioners was sent out on Aug. 8. It removes previous restrictions of bulletin ME-12, which had limited approval to built-in air conditioners.

ROOM UNIT DECISION UP TO LOCAL OFFICE

He pointed out that this approval would apply only in those states which have no limitations on what can be defined as real estate items. The decision on whether or not to include room units will be left up to local offices.

At the round table, Sigety said, according to *House and Home*, "I don't think FHA can defend its past record on air conditioning, but now I hope FHA can play a creative role. A year ago, our income requirements for air conditioning weren't realistic."

"Now we are telling our field offices the official attitude of this agency is changed. We believe in air conditioning."

Gathered around the table were air conditioning equipment manufacturers, associated housing material and equipment manufacturers, builders, lenders, home prefabricators, and Sigety.

George S. Jones, Jr., managing director of ARI, told the gathering that ARI will set up a special new house merchandising committee to work with the merchandising committee of the National Association of Home Builders on a cooperative program to make more effective use of air conditioning to sell more new houses.

Jones said William Lake, sales manager of Carrier Corp.'s Unitary Equipment Div., would head the committee. Sigety volunteered to work with the committee.

23 POINTS OF AGREEMENT

House and Home, whose editor moderated the meeting, reports in its September issue that the round table came to agreement on 23 points.

Some of these points were:

The net monthly cost of cooling a properly designed house is so small that it can safely be disregarded in fixing the income required to buy a house. The direct cost of water, electricity, and mechanical maintenance (which averages less than \$20 per summer month for 1,700 sq. ft. houses in Dallas) is wholly or almost wholly offset by smaller laundry bills, smaller cleaning bills, smaller doctor bills, less car expense, and other incidental savings.

With proper care, air conditioning units should last 20 or more years, judging by industry

experience with household refrigerators.

Installed cost of adding central air conditioning today to a good central heating system during construction should not be more than \$300 a ton, or \$600 to \$900 extra for a properly insulated and orientated house under 2,000 sq. ft.

Price resistance to air conditioning is very much greater at \$1,500 to \$2,000 extra per house than at \$600 to \$800 extra.

National Homes offers three tons of cooling in its over 1,400-sq. ft. prefabricated houses for \$600 to \$800 extra and 80% of its buyers take the option.

NAHB President George Goodyear offered air conditioning at \$1,500 extra in his \$23,500 houses in Charlotte, N. C. and got few takers.

"If I could put air condition-

ing into a \$25,000 house for \$1,000, I'd put it in every house," he testified.

FHA acceptance of room coolers for long term financing will bring the room air conditioner manufacturers in direct competition on even terms with the central system manufacturers. This will make it more important than ever to cut the installation cost of central systems.

What the home builder wants from the central system manufacturers is a packaged unit that can be installed easily with a minimum of costly on-site labor.

What the home builder wants from the room air conditioner manufacturer is a quiet unit that will fit out of sight into the walls (i.e. into a space 30 3/8 in. wide, 3 5/8 in. deep, and 90 in. high) or into the ceiling over the bedroom hall (usually 40 in. wide) where one unit will serve several small rooms with a

minimum of ductwork.

BUILDERS ASK HELP IN EDUCATING REAL ESTATE SALESMEN, PUBLIC

Builders at the meeting called for more effort on the part of air conditioning equipment manufacturers to sell and educate the real estate salesman who must sell air conditioned homes. They also asked more efforts to pre-sell the housewife on air conditioning by stressing advantages other than cooling.

Not one woman in 20 realizes that in air conditioned houses children eat better and sleep better, housework is easier, laundry bills, cleaning bills, and even doctor bills are smaller, they argued.

D. C. Minard, president of Trane Co. commented, "I wish builders would tell us more about their selling problems and their maintenance problems."

Carl Buchholzer, president of

the Airtemp Div., Chrysler Corp., added, "I don't know of any other industry that is selling a finer self-contained unit with higher capacity for a third of the 1947 price—as we are."

No Action Seen on Bill To Curb Supermarkets Claiming To Be Packers

WASHINGTON, D. C. — No action is expected in the waning days of this session of Congress on bills designed to clarify the jurisdiction of the Federal Trade Commission over firms such as supermarkets and freezer provisioners who claim to fall within the definition of a packer.

Rep. Peter F. Mack, Jr., chairman of a House commerce subcommittee studying one such bill, opined that no substantial damage would be done under the present law until Congress came back for its next session.

Tecumseh

engineering

VISION

ADDS ANOTHER MODEL

TO THE FAMOUS *Pancake* LINE

THE AR43



Model AR43
1/4 HP — High Speed

Tecumseh ENGINEERING VISION is once again responsible for the further expansion and improvement of the popular pancake line. The new AR43 is a 1/4 HP high speed compressor designed with a single reciprocating piston. Major result of this design change is a reduction in compressor noise level. In addition to cost savings, the new design provides another quiet, long lasting compressor with all of the outstanding features expected from Tecumseh.

This improvement has been accomplished without sacrificing the space-saving pancake shell, common to all compressors of this type. Therefore there is no change in the physical appearance or overall dimensions of the new model and customers may incorporate the AR43 into their line with no change in basic tooling.

This is another example of Tecumseh ENGINEERING VISION working to design better, more useful products for our customers.

Call your Tecumseh representative today and learn how you can profit with Tecumseh Pancakes.

Now There Are 8

Pancakes

- One 1/12 HP model —
- One 1/9 HP model —
- Two 1/6 HP models —
- Two 1/5 HP models —
- Two 1/4 HP models —

For Household Refrigerator, Freezer, Vending Machine, and Water Cooler applications.

MARSH Instruments

THE SERVICEMAN LINE of Testing Gauges, Testing Thermometers, Timers, etc.

PRESSURE GAUGES and Dial Thermometers for all services.

MARSH-ELECTRIMATIC, Water Regulating Valves, Solenoid Valves.

MARSH INSTRUMENT COMPANY
Sales Affiliate of J. P. Marsh Corporation
Dept. D., Skokie, Ill.



The Leader Serving Leaders in the Air Conditioning and Refrigeration Industries

TECUMSEH PRODUCTS COMPANY

MARION, OHIO

TECUMSEH, MICHIGAN

EXPORT DEPT: P. O. Box 2280, 24530 Michigan Ave., W. Dearborn, Michigan